

FARGO

Transportation Plan

JUNE 2024

PREPARED FOR	FARGO-MOORHEAD METROPOLITAN COUNCIL OF GOVERNMENTS AND CITY OF FARGO
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CONTENTS

Executive Summary.....	2
1: FOUNDATIONS	4
Introduction	4
Fargo At-A-Glance.....	6
Planning Context	11
Existing Transportation Network.....	22
Multimodal Approach to Mobility.....	31
Peer Cities Comparison.....	32
Vision and Goals	40
2: SAFETY	42
Introduction	42
Safe System Approach	44
Crash Analysis	45
Implementation.....	50
3: COMPLETE STREETS & ACCESS TO OPPORTUNITY	52
Introduction	52
Policy Framework.....	54
Complete Streets Policy.....	56
Street Design Considerations	60
Multimodal Toolbox.....	62
Transit-Supportive Design.....	63
Intersection Toolbox	64
Street Design Guidelines	67
4: CONNECTIVITY	78
Policy Framework.....	80
Priority Projects	81
5: INNOVATION & LIFE CYCLE SUSTAINABILITY	90
Innovative Design	92
Funding and Maintenance	96
APPENDIX.....	98
Appendix A: Corridor Lessons Learned	100

EXECUTIVE SUMMARY

The Fargo Transportation Plan defines a comprehensive transportation vision for the City of Fargo. This plan establishes the framework that will ensure that every future transportation project helps build a more sustainable, healthy, and economically vibrant community. This plan documents a guiding direction for the City as it invests in transportation in the coming years.

The Fargo Transportation Plan builds upon a series of robust planning efforts. The plan's vision and goals align with what the community has repeatedly identified as important in past plans. Over the past decade, the community has continued to affirm an emphasis on improving safety, access to active transportation, sustainability, and an emphasis on Complete Streets.

This plan establishes the following vision for Fargo: The City of Fargo will provide a multimodal transportation system that supports the community's livability, sustainability, and economic development goals. Traveling in Fargo will be safe and comfortable for users of all ages and abilities, no matter their mode of travel.

The Fargo Transportation Plan is organized around six goals that support this vision: Safety, Complete Streets, Access to Opportunity, Connectivity, Innovation, and Life Cycle Sustainability.



SAFETY

Improve safety for all roadway users through data-driven design.



COMPLETE STREETS

Develop a transportation network that provides opportunities for multiple modes of travel and users of all ages and abilities.



ACCESS TO OPPORTUNITY

Provide multimodal connections to jobs, services, education, housing and healthcare.



CONNECTIVITY

Promote a connected street grid to enhance walkability and neighborhood design.



INNOVATION

Embrace national best practices for transportation management, maintenance, and design.



LIFE CYCLE SUSTAINABILITY

Align transportation design and land use policy to promote fiscally sustainable development patterns.



SAFETY

The City's approach to transportation planning is anchored in safety as its central priority and is informed by a Safe Systems Approach to traffic safety. Safety means more than relying on safe behaviors from individual road users—Fargo can plan for safety by taking a holistic approach which includes road design, vehicle safety, and more. All users, including pedestrians, bicyclists, people with disabilities, transit users, freight operators, and vehicular users must be able to get where they need to go safely.

The Fargo Transportation Plan includes a crash analysis of the highest crash prone intersections and street segments in Fargo, along with implementation guidance on how to address these problem areas.



COMPLETE STREETS & ACCESS TO OPPORTUNITY

This plan outlines key considerations and recommendations to advance the goals for Complete Streets and Access to Opportunity. The City will create a transportation network that provides opportunities for multiple modes of travel and users of all ages and abilities, allowing people to access opportunities, including jobs, services, education, housing, and healthcare.

The Fargo Transportation Plan includes:

- **Complete Streets Policy** – This plan defines a Complete Streets Policy for Fargo. Complete Streets is an approach to planning, designing, and building streets that enables safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.
- **Toolboxes for Multimodal Streets and Intersections** – These toolboxes (including for intersections, multimodal streets, and transit-supportive design) provide guidance for the context-specific application and design of various roadway elements.
- **Street Design Guidelines** – These guidelines provide appropriate design features for new and reconstructed streets based on type, network role, and future land use context. A map shows existing and planned streets according to this new typology.



CONNECTIVITY

Connectivity in Fargo includes promoting a connected street grid to enhance walkability and neighborhood design. All transportation modes deserve a connected, efficient network, including bicyclists, pedestrians, and vehicular users.

This plan outlines short- and medium-term priorities for the following project types:

- Street Projects
- Shared Use Path Projects
- Safety/Miscellaneous Projects

These priorities should be used to inform future project development and selection for funding.



INNOVATION AND LIFE CYCLE SUSTAINABILITY

Transportation design is constantly evolving, with many best practices changing in the last few decades. Fargo should strive to be at the forefront of innovative design in order to promote safety and effective use of resources. Additionally, funding must be managed appropriately to maximize the effectiveness of past, present, and future transportation investments. Several City policies also must be updated to reflect the latest transportation priorities.

The Fargo Transportation Plan provides:

- Guidance on innovative design for interchanges and multimodal intersections
- Funding and maintenance strategies
- Policy modernization guidance

1: FOUNDATIONS

INTRODUCTION

The Fargo Transportation Plan builds on previous planning efforts to define a comprehensive transportation vision for the City of Fargo. While previous plans have provided some transportation guidance, the City's steady growth, accelerating development, and changing transportation needs have created a need for a more detailed plan.

The Fargo Transportation Plan establishes a framework to ensure that every future transportation project builds a more sustainable, healthy, and economically vibrant community.

FARGO AT-A-GLANCE

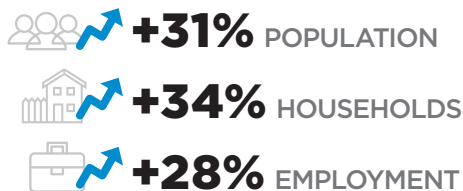
Understanding the existing demographic and travel patterns in Fargo is essential to guiding recommendations for the future of Fargo's transportation network. The Transportation Plan needs to ensure that both the existing and future population, land development patterns, major employers, and destinations needs are met through strategic long-term investments.

CONTINUED GROWTH

Fargo is growing. In 2023, the U.S. Census Bureau estimates that Fargo had a population of 133,188, up from 105,600 in 2010. That's a 26 percent increase in just 13 years.

Metro COG develops demographic forecasts for the Fargo-Moorhead region and released its most recent Baseline Demographic Forecast in 2022. The population forecast through the year 2050 for Fargo is shown in Figure 1.

Metro COG projects the following growth for Fargo between 2020 and 2050:



HISTORIC AND PREDICTED POPULATION

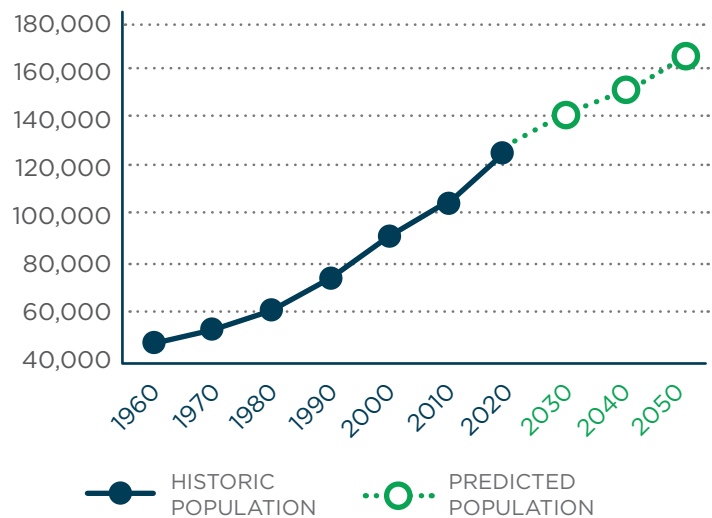


Figure 1: Demographic Projections for Fargo;
Sources: Metro COG (Projected data),
U.S. Census Bureau (Observed data)¹

This level of growth will substantially increase transportation demand. The City is also heavily impacted by continued growth throughout the metro area, specifically in West Fargo, Moorhead, and Horace. Since Fargo is a major employment center, growth in these areas will create increased commuting demand. The City must begin planning now to accommodate the needs of current and future residents and workers.

DEMOGRAPHIC DASHBOARD ²

17.8 MINUTES
MEAN COMMUTE
TIME FOR WORKERS

93.1%
HOUSEHOLDS
WITH ACCESS
TO A VEHICLE

12.3%
POPULATION
IDENTIFYING AS
HAVING A DISABILITY

\$59,698
MEDIAN
HOUSEHOLD
INCOME

15.5%
POVERTY
RATE

¹ Projection data represents the "Most Likely" scenarios

² Source: U.S. Census Bureau American Community Survey 2022 1-Year Estimates

Population Density and Shifts

As of 2020, Fargo's overall population density was 2,530 people per square mile. Population density is highest on the eastern side of Fargo, with the densest clusters near downtown. Density is also relatively higher along the Interstate 94 corridor across the city. The north and south sides of the city have the lowest population densities. Higher population density typically correlates with increased transportation demand and congestion.

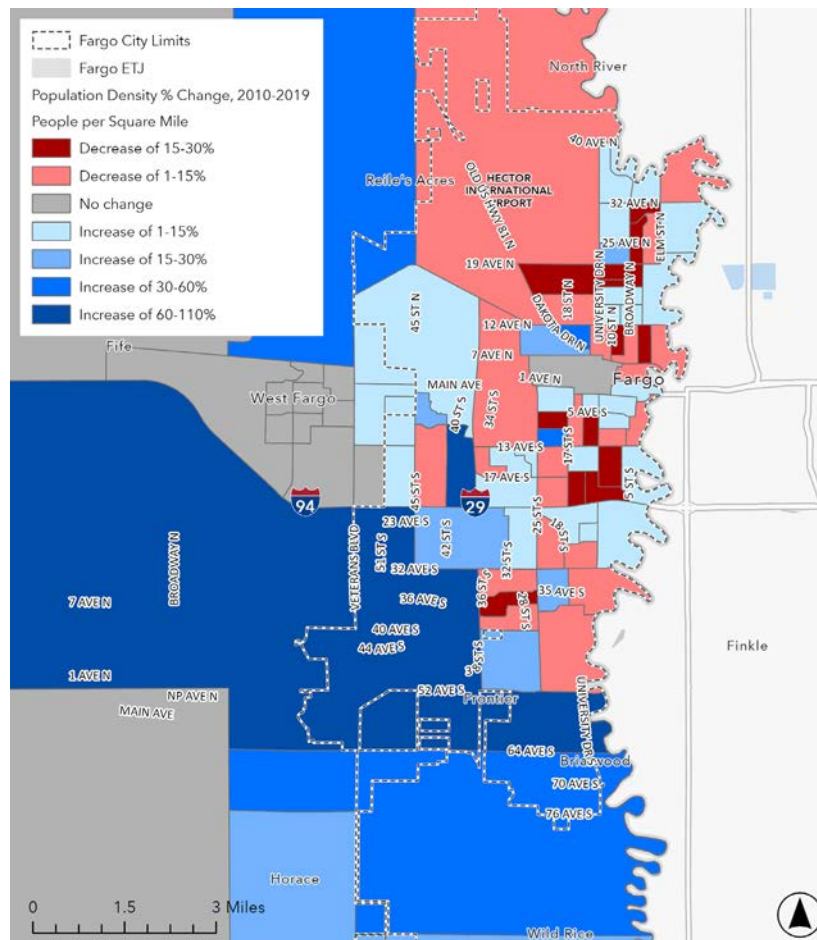


Figure 2: Change in Population Density by Block Group, 2010 to 2019; Source: U.S. Census Bureau

KEY DESTINATIONS

Key destinations in the city include downtown Fargo, North Dakota State University (NDSU), West Acres Mall, FARGODOME, Scheels Arena, and the Hector International Airport. Downtown Fargo serves as a major employment center and entertainment destination, and commercial development along 45th Street S and 13th Avenue S in western Fargo also serve as major daily destinations.

Table 1 Fargo-Moorhead Top 5 Fargo Employers

EMPLOYER	# OF EMPLOYEES
Sanford Health	9,349
North Dakota State University	4,159
Essentia Health	2,690
Fargo Public Schools, District No. 1	1,860
U.S. Bank	1,213

Source: Fargo-Moorhead/West Fargo Chamber of Commerce

COMMUTE PATTERNS

Fargo is a major employment center in the Fargo-Moorhead region. As of 2021, 93,475 people were employed in Fargo. Commuting patterns in the region have been assessed to understand mode share, inflow/outflow patterns, and the destinations and directions traveled by commuters.

Mode Share

Most Fargo residents commute alone by car, truck, or van (Figure 3). Between 2010 and 2022, the mode share for driving alone remained similar (around 80 percent); working from home increased notably during and after the COVID-19 pandemic; and carpooling, use of public transit, walking, and other modes like taxis and biking decreased (Figure 4).

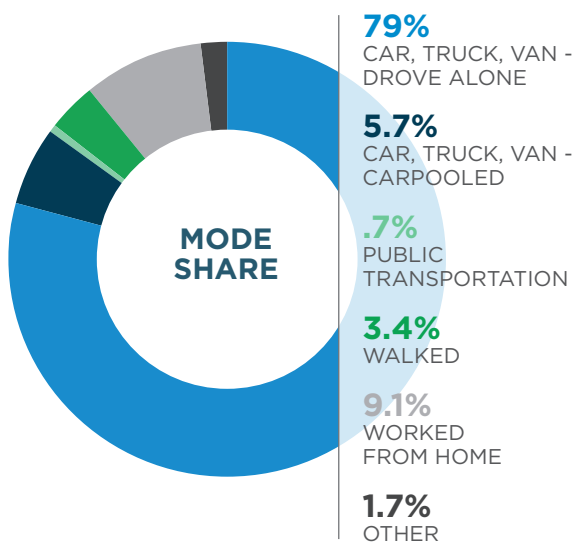


Figure 3: Fargo Mode Share (2022);
Source: U.S Census Bureau

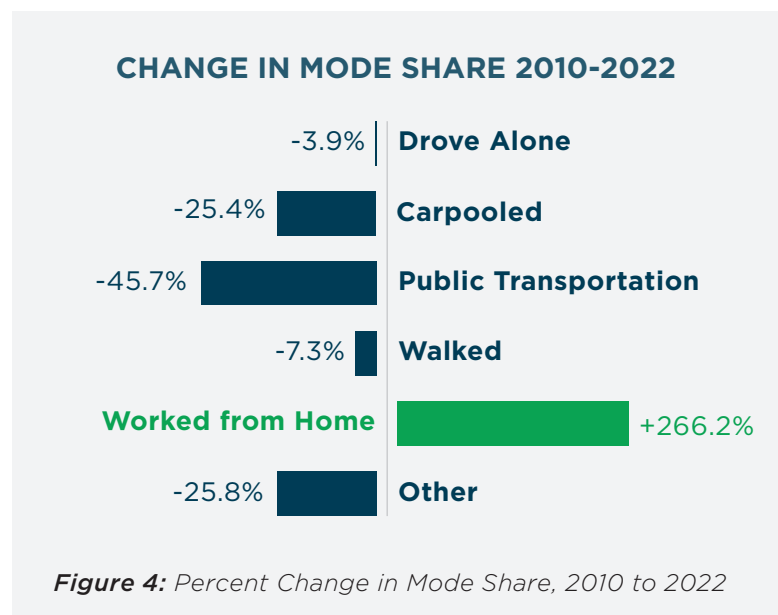


Figure 4: Percent Change in Mode Share, 2010 to 2022

Inflow and Outflow Patterns

Of the 93,475 people who were employed in Fargo as of 2021, 55.2 percent commuted in from outside of the city. Most Fargo residents work within the city, with only 28.6 percent of residents employed outside of Fargo. In the Fargo-Moorhead region overall, most commuters travel north from home to their work. Most commuters have less than a ten-mile commute.



Figure 5: Fargo Inflow and Outflow Commuting Patterns (2021); Source: On The Map

Destination/Direction Analysis

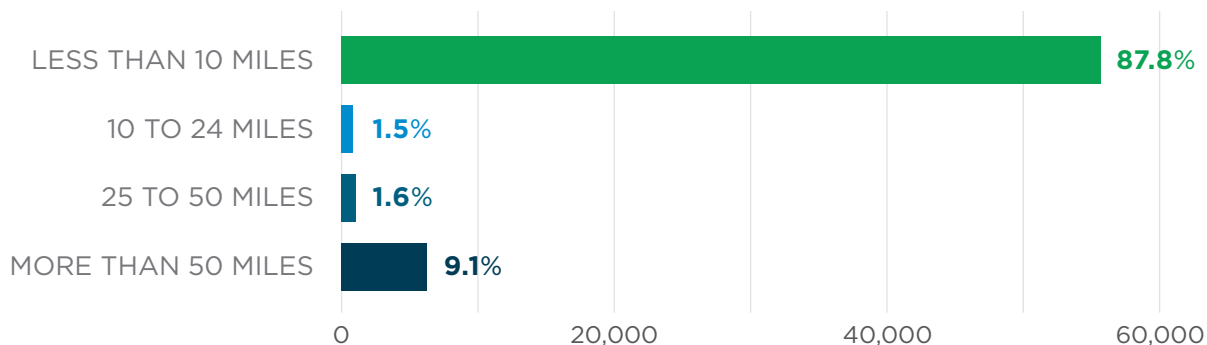


Figure 6: Fargo-Moorhead Region: Direction/Distance Traveled from Home to Work (2021); Source: On The Map

The map in Figure 7 shows employment concentrations within the city. Jobs are generally concentrated in downtown Fargo, on the NDSU campus, and in the commercial areas on the western side of Fargo along Interstates 94 and 29.

Figure 8 shows the home locations of commuters living and working in Fargo. Commuters' homes are spread across the residential areas of the city, with many of the highest nodes in southern and western Fargo. Very few commuters come from the northwestern area of the city, which is mostly industrial.

Because residents and jobs are often located within close proximity to one another, Fargo workers typically have short commutes, with 87 percent of workers commuting less than 10 miles. This means that alternate modes of transportation, such as biking and transit, may be especially attractive to a large portion of commuters.

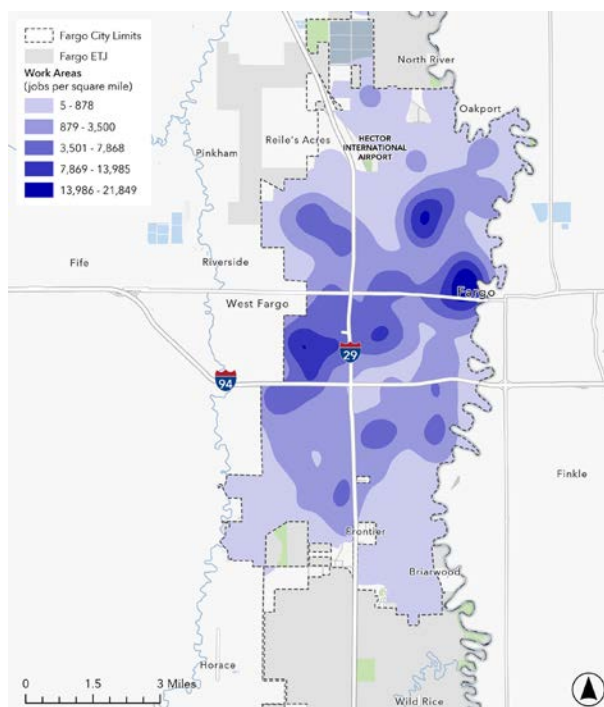


Figure 7: Concentrations of Employment in Fargo (2018); Source: On The Map

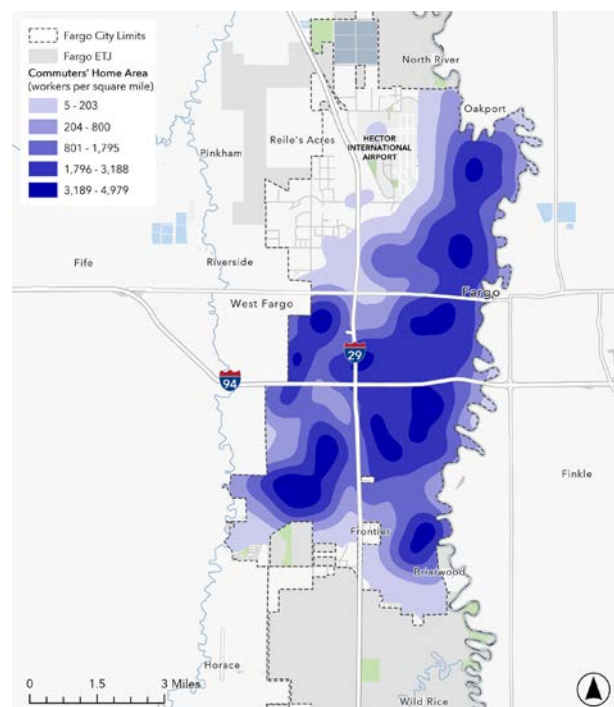


Figure 8: Concentrations of Commuters' Homes in Fargo (2018); Source: On The Map

WHAT WE'VE HEARD

The Fargo Transportation Plan seeks to build on the results of past planning efforts and better align the City's transportation planning process with the public's vision. To better understand the needs and wishes of the Fargo community, this plan reviewed public engagement results from several previous planning efforts, as well as conducted conversations with City staff and elected officials to better understand operational challenges.

Key takeaways from this exercise include:

Go2030

The Go2030 Comprehensive Plan included a significant public involvement component, including an online forum, community meetings, a business community survey, and stakeholder engagement. Key takeaways from this plan include:

- Almost 70 percent of the business community supports or strongly supports investing in additional bicycle and pedestrian infrastructure.
- About 67 percent of the business community supports or strongly supports design guidelines that increase walkability and the visual appearance of developments.

Fargo-Moorhead Metropolitan Bicycle and Pedestrian Plan

The region's bicycle and pedestrian plan was adopted in late 2022. As part of this plan, a public survey identified several key themes:

- Trails, separate biking and walking paths, protected bikeways, and active transportation facilities setback from the roadway are all preferred over on-street facilities.
- Regular upkeep and winter maintenance of facilities remain a challenge from the perception of engaged participants.
- Most people would like to bike and walk more and drive less.

Commission

In November 2021, the Fargo City Commission provided input on the Transportation Plan's goals via a presentation. The Commissioners present ranked Safety, Lifecycle Sustainability, and Complete Streets as the top three goals to pursue.

The Transportation Plan advances all of these key themes throughout the Street Design Guidelines and the Policy Modernization recommendations.

"Beautiful and socially functional environments attract both investment and in-migration of talent. If we want to attract both, we will need to beautify our main corridors."

-Go2030 public comment

Bicycle and Pedestrian Plan Top Three Priorities:

1. Build new sidewalks, trails and bikeways
2. Enhance existing sidewalks and bikeways
3. Connections to/ within activity centers

PLANNING CONTEXT

In 2012, the City of Fargo adopted its most recent comprehensive plan, Go2030. That document established a high-level transportation vision for the City, including defining several key initiatives. That plan gained broad agreement and is generally regarded as defining the City's vision for future development. While the transportation chapter highlighted several catalytic opportunities, the City could benefit from a more detailed plan of action that aligns expectations for growth and development with investments in transportation and mobility.

In 2020, the City also completed a Land Development Code diagnostic as part of the multi-year process to modernize the City's land use practices. The Fargo Growth Plan and Land Development Code rewrite is underway as of mid-2024, creating a unique opportunity for the Transportation Plan to inform the City's approach to land use.

In the interim, many citywide, regional, and small-area plans have expanded on the goals set forth in Go2030. This plan seeks to compile and build on those recommendations, as well as establish a sustainable framework to link land use and transportation in the city in the coming decades.



GO2030 (2012)

The City of Fargo adopted the Go2030 Fargo Comprehensive Plan in May 2012 as the City's official policy for the future growth and development through 2030. The plan's chapter on Transportation is a key input for the Fargo Transportation Plan.



Vision & Goals

Go2030 articulates the following vision statement based on community input, "In 2030, Fargo will be a vibrant and sustainable city with a high quality of life, robust economy, and welcoming community atmosphere."

The guiding principle for the Transportation aspects of the plan is, "Fargo will transform its transportation system to encourage walking, biking, and transit. The City will coordinate infrastructure investments and land use policy in a supportive and synergistic way."



Recommendations or Outcomes

Go2030 defines eight catalysts for the City—ideas that have potential to accelerate development and enhance quality of life. Four of these eight catalysts are related to transportation. They include: Walkable Mixed-use Centers, Signature Streets, Active Living Streets, and All-Season City-Wide Trail Loop.

The plan also recommends various initiatives to advance its vision. Initiatives directly relevant to transportation include bicycle/pedestrian infrastructure, Complete Streets, transit improvements, clear and attractive access to downtown, transportation linkages across the Red River, Intelligent Transportation Systems (ITS), and parking. Each initiative is accompanied by multiple recommendations. A few of these recommendations are:

- **Bicycle/Pedestrian Infrastructure** - Continue to identify existing and future roadways for the placement of on-street bicycle lanes and share-the-road designations.
- **Complete Streets** - Creatively apply engineering, planning, and urban design principles to transform Fargo's roadway network with a continuous and connected network of Complete Streets.
- **Transit Improvements** - Ensure that walkable mixed-use centers are easily served by transit, that the physical form accommodates buses, and that pedestrian and bicycle routes lead to transit stops. Transit improvements are an integral part of redevelopment plans for walkable mixed-use centers.
- **Clear and Attractive Access to Downtown** - Use the Main Ave corridor study to examine corridor land use patterns, redevelopment, corridor identify, signature street characteristics, and wayfinding opportunities that would improve this corridor as a gateway to downtown.
- **Transportation Linkages Across the Red River** - Designate corridors for future river crossings and begin the process of acquiring right-of-way.
- **Intelligent Transportation Systems (ITS)** - Incorporate ITS features into roadway improvements projects throughout the city to create a seamless system of monitoring and improving safety and efficiency through the transportation system.
- **Parking** - Explore creative parking strategies such as shared parking between daytime and nighttime uses.

FARGO-MOORHEAD METROPOLITAN BICYCLE AND PEDESTRIAN PLAN (2022)

Metro COG adopted the Fargo-Moorhead Metropolitan Bicycle and Pedestrian Plan in October 2022. This plan updates the 2016 plan with updated information about the Fargo-Moorhead region's people and transportation systems. The purpose of the plan is to guide Metro COG and related jurisdictions in creating better bicycle and pedestrian networks for people of all ages and abilities. The plan recommends a proposed bicycle network, improvements to pedestrian crossings, design guidelines, policies and programs, and process improvements.



Vision & Goals

Based on input from the public, key stakeholders, and agency staff, the plan Vision reads, "Walking and bicycling are primary, year-round modes of transportation that equitably connect all people and places in Metro COG's planning area."

The plan's guiding principles include health and safety, maintenance, connectivity, equity, collaboration, and sustainability/environment.



Recommendations or Outcomes

The plan makes the following types of recommendations:

- **Design Guidelines** describing best practices in bicycle and pedestrian facility selection and design to support local staff
 - Guidelines include suggested widths for sidewalk zones and separated bicycle facilities
- **Bicycle Network** identifying opportunities for new and upgraded bicycle facilities to support a safer, more accessible, more convenient bicycling experience
 - The plan recommends new and improved bicycle facilities in all parts of Fargo, including seven priority projects
- **Pedestrian Improvements** reflecting some of the highest priority intersections in the region where facility upgrades and reconstruction can improve safety, accessibility, and convenience
 - The plan includes seven priority pedestrian improvements in Fargo
- **Policies and Programs** include opportunities to revise government policies such as parking minimums and bicycling regulations, and improve educational programming options
 - Policies and programs include Walk! Bike! Fun! curriculum and coordination with regional bicycling organizations
- **Process Improvements** include opportunities to facilitate bicycle and pedestrian planning, construction, and maintenance processes
 - Recommended improvements include supporting infill development, quantifying the benefits of multimodal infrastructure, supporting interagency and interdisciplinary coordination, and supporting member jurisdictions in winning competitive state and federal funding

FARGO/WEST FARGO PARKING AND ACCESS STUDY (2018)

Metro COG published the Fargo/West Fargo Parking and Access Study in December 2018. The purpose of the study was to analyze the relationship between parking and site development, how street networks can be most efficient, and how parking and access regulations align with the broader goals of Metro COG, Fargo, and West Fargo.

This study included an existing conditions assessment that considered the cities' zoning and variance procedures for parking, parking utilization throughout the cities, relationships between development patterns and parking, and stakeholder interviews. Through this assessment, Metro COG defined issues and opportunities and articulated a framework for the future of parking in Fargo and West Fargo.



Vision & Goals

The goals of this study were to:

- Develop guidelines that encourage safe traffic flow, as well as a comfortable walking and biking experience
- Develop access and roadway guidelines that complement land use form, as opposed to just functional classifications
- Reduce the need to build excess off-street parking
- Enable sustainable development patterns



Recommendations or Outcomes

This study defined seven distinct road typologies based on road functional classification and land use. It also established corresponding guidelines for parking and road design for each typology.

Additionally, the study articulated recommendations to right-size parking in Fargo and West Fargo. This included recommendations to:

- Deregulate off-street parking minimum requirements while simultaneously establishing parking maximums
- Change procedures for parking variances to give developers flexibility in how they develop parking
- Establish a shared parking program that promotes shared parking between land uses
- Establish a fee-in-lieu of parking program that allows developers to pay a fee to opt out of providing minimum parking

DOWNTOWN INFOCUS (2018)

The City of Fargo published the Downtown InFocus plan in January 2018. Downtown InFocus is a comprehensive, action-oriented guidebook for the future of Fargo's historic downtown. The guidebook is accompanied by an implementation plan called the Downtown InFocus Playbook.



Vision & Goals

As part of its vision statement, Downtown InFocus emphasized the importance of the transportation network by envisioning a future for downtown Fargo in which, **“Our streets are walkable and vibrant, rich with color and texture and designed for a sustainable future. New multi-use trails connect downtown to the Red River and Beyond”.**

The plan articulates seven goals for downtown Fargo:

✓ Grow as a neighborhood	✓ Complete our streets
✓ Prosper as a business center	✓ Park smart
✓ Thrive as a destination	✓ Pay with purpose
✓ Be a model for inclusive growth and development	



Recommendations or Outcomes

Downtown InFocus identified strategies to support each of these goals. Transportation strategies are mentioned under many of these goals, but the Complete Our Streets and Park Smart goals are most relevant to the Fargo Transportation Plan. These goals included the following recommendations:

COMPLETE OUR STREETS

- › Establish a street hierarchy downtown to inform reconstruction projects
- › Develop a Fargo Street Playbook
- › Improve pedestrian safety throughout downtown
- › Ensure safe, connected spaces for bicycles
- › Increase the visibility and improve the quality of bus stops

PARK SMART

- › Change parking rates, time restrictions, and penalties according to distance from the core of downtown.
- › Align parking supply with demand by evaluating parking utilization systemwide
- › Lobby the State to eliminate the ban on metered parking
- › Adopt strategies to increase turnover for high-demand spaces
- › Develop clearer parking wayfinding
- › Establish parking maximums in the core downtown that allow for a more dense, walkable environment

2045 FARGO-MOORHEAD METROPOLITAN TRANSPORTATION PLAN (MTP) (2019)

Metro COG adopted the 2045 MTP in November 2019. The MTP is a plan for the entire region and serves as a performance assessment of the Fargo-Moorhead multimodal transportation system. It is based on regional demographic trends, public engagement, and a performance-based planning approach to system performance that focuses on evaluating safety conditions, system pavement and bridge conditions, and system operations. The plan discusses the impacts of emerging transportation trends and technologies, as well as congestion management processes. This plan addresses financial, safety, and environmental considerations for the transportation network, and strategies, priorities, and policies to advance the MTP's goals.



Vision & Goals

The MTP defines the following goals for the Fargo-Moorhead region:

- › **Safety system & security** – Provide a transportation system that is safer for all users and is resilient to incidents
- › **Travel efficiency & reliability** – Improve regional mobility
- › **Walking & biking** – Increase walking and biking as a mode of transportation
- › **Transit access** – Support enhanced access to the existing and future MATBUS system
- › **Maintain transportation infrastructure** – Provide a financial plan that supports maintaining transportation infrastructure in a state of good repair
- › **Environmental sustainability** – Provide a transportation system that provides access equitably and limits impacts to the natural and built environment
- › **Economic development & transportation decisions** – Promote transportation projects that support regional economic goals, support freight movement, and promote projects that can be financially sustained for the long term
- › **Emerging transportation trends** – Incorporate transportation trends and new technologies in regional transportation plans



Recommendations or Outcomes

The MTP articulates many objectives, strategies, and policies that support its goals. For each goal, the MTP defines various objectives that are tied to prioritization metrics for potential transportation projects. The MTP defines the following strategies and priorities:

- › Complete critical connections in bicycle and pedestrian networks
- › Promote system management strategies in currently developed corridors
- › Provide new street network and multimodal connections to future growth areas, and
- › Identify potential transit strategies for the next Transit Development Plan (TDP)

Finally, the MTP articulates policies that aim to develop a more efficient, equitable, and sustainable system that offers Fargo-Moorhead residents a range of options for safe and reliable mobility. These policies fall under the categories of: roadway congestion, travel behavior/travel demand management (TDM), system connectivity, growth areas/land use, walking and bicycling, transit, freight, emerging transportation trends, economic development, and Complete Streets.

FARGO-MOORHEAD METRO BIKEWAYS GAP ANALYSIS (2019)

Metro COG conducted this analysis of bikeways gaps in the Fargo-Moorhead metropolitan area in 2019. The purpose of this study was to develop concept alternatives for closing 16 gaps in the existing Fargo-Moorhead bikeway network. Eight of these 16 gaps are in the City of Fargo's jurisdiction.

The project team conducted an analysis for each gap and proposed one or more alternatives to improve bikeway connections. These concepts were developed based on community engagement, input from the Study Review Committee, existing conditions analysis, and technical review from the project team.



Vision & Goals

The goals of this study were:

- ✓ Provide a more connected and safer bikeway network within the metropolitan area
- ✓ Provide recommendations for concept alternatives to close bikeway gaps in the Fargo-Moorhead metro area. This includes analyzing existing conditions, engaging community members, analyzing impacts of the proposed facilities on adjacent properties, right-of-way requirements, complying with national bikeway design standards, developing concept alternatives, and analyzing the pros and cons of various alternatives
- ✓ Develop planning-level cost estimates for each of the recommended bikeway concept alternatives



Recommendations or Outcomes

This study produced recommended concepts and planning-level cost estimates for each bikeway gap. Additionally, the study produced a set of recommendations for implementation strategies and funding opportunities for these projects.

SAFE ROUTES TO SCHOOL PLAN (2020)

The City of Fargo adopted the Metro COG's City of Fargo Safe Routes to School (SRTS) Plan in February 2020 as an update to the City's 2009 SRTS plan. This plan provides a framework for the implementation of SRTS projects, which seek to improve the health and wellbeing of children by enabling and encouraging them to walk and bike to school, during the school day, and around their communities. This plan reflects the outcomes of engagement with students, families, and schools, field observations, and a framework for SRTS of: Equity, Education, Encouragement, Engineering, Enforcement, and Evaluation.

The plan details specific existing conditions and proposed SRTS improvements for public and private elementary and middle schools in the city. In addition to these site-specific recommendations, the plan summarizes citywide opportunities to improve walking and bicycling conditions for students. Finally, the plan provides examples of SRTS programs, relevant local policies and programs, best practices for campus and street design, funding opportunities for SRTS projects, and implementation recommendations for this plan.



Vision & Goals

The goals for the SRTS Plan include:

- ✓ Increase the health and physical activity of students in the city
- ✓ Provide SRTS educational resources for students, staff, parents, and guardians
- ✓ Increase the safety of students in the city
- ✓ Increase the percentage of students that walk and/or bicycle to school



Recommendations or Outcomes

The SRTS Plan recommends site-specific improvements for each public and private school in Fargo. Establishing SRTS route options for each school and a prioritized list of projects, policies, and educational programs that can be implemented at individual school were key deliverables of this plan. Additionally, the Plan recommends citywide improvements that would support SRTS objectives. These include:

- › Implement pedestrian and bicycle-friendly design
- › Develop and implement an ADA Transition Plan
- › Increase connections between schools and neighborhoods
- › Update School Speed Zone signage
- › Review pedestrian signal timing and install lead pedestrian intervals
- › Increase education regarding new treatments, such as HAWK signals
- › Review winter maintenance and snow storage practices

CORRIDOR STUDIES: VETERANS BOULEVARD, 17TH AVENUE, 76TH AVENUE, UNIVERSITY DRIVE & 10TH STREET

Metro COG and City of Fargo conducted corridor studies of Veterans Blvd (2022), 17th Ave S (2018), and 76th Ave S (2020). A study of the University Drive and 10th Street corridor (Uni10 Corridor Study) is currently ongoing. The purpose of these studies is to guide the development of alternatives for the future of the corridors by conducting technical analyses of existing and future conditions and integrating feedback from various stakeholders.



Vision & Goals

The goals of the studies were to:

VETERANS BOULEVARD

- ✓ Articulate a shared vision for the corridor's extension

76TH AVENUE S

- ✓ Develop a shared, multi-jurisdictional vision for the corridor and an accompanying implementation plan

17TH AVENUE S

- ✓ Develop a vision for the corridor that addresses declining operational conditions and identified multimodal needs

UNIVERSITY DRIVE & 10TH STREET

- ✓ Explore ways to improve the experience and safety along these critical corridors



Recommendations or Outcomes

VETERANS BOULEVARD

This study articulated a shared vision for the corridor to:

- Enhance livability and serve the whole community
- Serve all modes
- Improve connectivity and remain flexible for future growth

76TH AVENUE S

This study evaluated two potential classifications for the corridor: 1) a Regional Arterial with a focus on free-flowing traffic, or 2) Commercial Arterial similar to other Fargo-Moorhead roads with more traffic signals and a greater emphasis on the relationship between the street and adjacent development.

17TH AVENUE S

This study recommended creating a cycle track along the corridor as a specific multimodal infrastructure improvement and recommended a prioritization and phasing schedule for various other improvements along the corridor.

UNIVERSITY DRIVE & 10TH STREET

This study is investigating whether improvements to this corridor are needed to improve safety and mobility. The concept of converting this one-way pair to two-way has been discussed often in previous planning processes. The study has so far examined previous plans, listened to community concerns, and analyzed traffic modeling scenarios. The “Downtown Only” traffic scenario, which includes a two-way conversion in the downtown area only, would increase circulation and accessibility for all modes. This concept is being refined and compared against a “Do Nothing” alternative for the next phase of evaluation.

LAND USE PLANNING

Land use and transportation are inextricably linked. Grid-style, connected development encourages walking, biking, and transit use because destinations are close together. Sprawling development patterns often require users to rely on personal vehicles because destinations are far apart. While this plan specifically focuses on transportation, one of the major challenges in Fargo has been the disconnect between transportation and land use. This often creates street designs that are not suited to the surrounding neighborhood, or intense development patterns not well served by the transportation network.

It is important to acknowledge the link between the supply (transportation infrastructure) and demand (land use patterns) to fully take advantage of the opportunities to advance the City’s vision.

Core Neighborhoods Master Plan (2020)

The City of Fargo Core Neighborhoods Master Plan defines a vision for the nine neighborhoods surrounding downtown. The plan included a Core Neighborhoods Toolkit, which acknowledged the importance of Public Infrastructure Investment and recommended that the Transportation Plan identify a process for implementing Complete Streets principles along major corridors.

Land Development Code Diagnostic Report (2020)

Development patterns in the City of Fargo are governed by a Land Development Code, which was last comprehensively updated over 20 years ago. The City will soon revise the Land Development Code, marking an opportunity for the Transportation Plan and Land Use Code to work together to define the need for sustainable land use and transportation patterns. The Diagnostic Report, finalized in 2020 identifies several challenges with the current code that create barriers to walkable, compact development, including the City’s reliance on Planned Unit Developments (PUDs), permissive parking regulations, and built-form standards that are not conducive to creating walkable neighborhoods.

Fargo Growth Plan (2024)

Fargo is in the process of creating a new growth plan, which will provide long-range guidance on land use and development to the City, its partners, and the private sector. The last growth plan was completed in 2007. The new plan will include a decision-making framework for future development and redevelopment based on the community’s values and vision, a map guiding future development types, and a growth management plan with specific steps for the City and other agencies to advance the community’s vision.

The Fargo Growth Plan is scheduled to be completed in mid-2024.



LAND USE INTEGRATION

The Fargo Transportation Plan will provide context-sensitive recommendations that respond to the specific transportation needs and challenges in different areas of the city. The plan will also make policy recommendations on how to further integrate transportation and land use planning in the city in future years.

The benefits of transportation-land use integration include:

- **Reduced Emissions:** Grid-style, connected development patterns bring destinations closer together, creating shorter trip distances. This means an overall reduction of vehicle miles traveled throughout the city.
- **Reduced Transportation Costs:** Cars are expensive to own, maintain, and operate. By reducing reliance on vehicles, more households can reduce fuel costs and maintenance, and some may choose to forgo owning a vehicle altogether.
- **Fiscal Sustainability:** A grid-based road network increases the density of taxpayers per mile of roadway, making the system more sustainable to build and maintain for the long-term future.
- **Improved Access to Opportunities:** Many households lack reliable transportation. Compact development patterns allow more households to live within close distance of schools, employers, health care, and shopping, reducing disparities.
- **Enhanced Quality of Life:** A fully integrated land use and transportation strategy improves community walkability, supports local businesses, and enhances amenities such as street trees, landscaping, and bicycle facilities.
- **Safety:** A transportation system that reflects and reinforces surrounding land uses promotes safety for all road users by appropriately prioritizing modes and setting travel speeds.

EXISTING TRANSPORTATION NETWORK

This section includes a thorough analysis of the City's existing physical transportation infrastructure, including roadways, the current functional class system, bicycle and pedestrian facilities, safety conditions, and multimodal level of service.

The intent of this plan is to evaluate each mode of travel along with safety to holistically understand needs and assess the balance of transportation modes provided throughout the network. Understanding the existing transportation networks in Fargo is an essential input to guide recommendations for the future of transportation in Fargo.

TRANSPORTATION INVENTORY

Vehicular Network

FUNCTIONAL CLASSIFICATION

Roadways are designated based on two primary travel needs: travel mobility and land access to the roadway network using the functional classification system. This system is used to create a roadway network that efficiently collects and distributes traffic from individual properties and neighborhoods to the state highway system. A successful system coordinates and manages mobility, roadway design, and route alignment and seeks to match current and future access and land use with the adjacent roadway's purpose, speeds, and spacing.

The City of Fargo Traffic Engineering Division currently designates a functional classification system* comprised of principal arterials, minor arterials, major collectors, minor collectors, and local roadways. Each classification has a different function, with interstates or freeways prioritizing mobility with very strict access controls while a local road prioritizes property access over mobility, as shown in Figure 9.

Most travel relies on a network of roads at multiple classification levels. Principal arterials provide the highest levels of travel mobility and very low land access and typically carry the highest traffic volumes. Minor collectors provide much higher land access with lower travel mobility and lower traffic volumes. All roads federally functionally classified are eligible for federal funding.

Examples of functionally classified roadways in Fargo are shown in Table 2. Figure 10 shows the existing functional classification and the most recently collected traffic volumes.

**Note: The current Fargo Land Development Code defines a functional class system of Principal Arterial, Minor Arterial, Collector, Local Collector, and Local. The Fargo Transportation Plan recommends establishing consistent functional classification terminology during the upcoming Land Development Code rewrite.*

Figure 9: Access and Mobility for Each Existing Functional Class

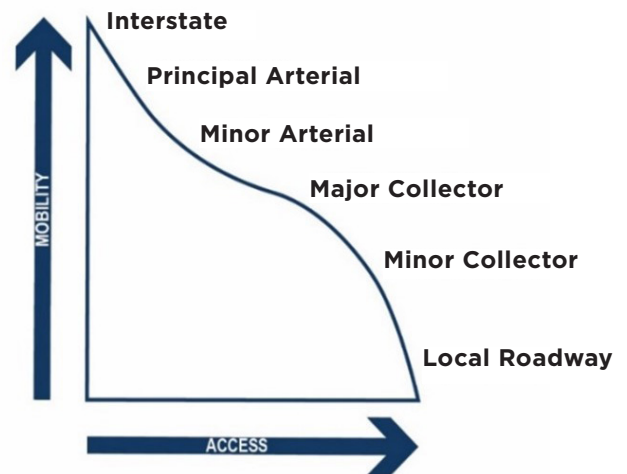


Table 2: Current Functional Classification Examples



Interstates

► I-94, I-29

High speed (55 miles per hour or higher), high traffic volume, access limited to every one-mile.



Principal Arterials

► Main Avenue, University Drive, 45th Street

High speed (35-45 miles per hour), high traffic volume, access limited to one-quarter and one-half mile. Intended to serve longer local trips and connect to interstates.



Minor Arterials

► 25th Street, 40th Avenue

Moderate speed (30-40 mph), moderate traffic volumes. Access controlled, but less strict. Intended to connect to the local area's major destinations.



Major Collectors

► 17th Avenue S, 7th Avenue N

Moderate speed (30-40 mph), moderate traffic volumes. Less access control than arterials. Intended to connect local neighborhoods and commercial zones to other destinations.



Minor Collectors

► 15th Avenue N, 32nd Street S

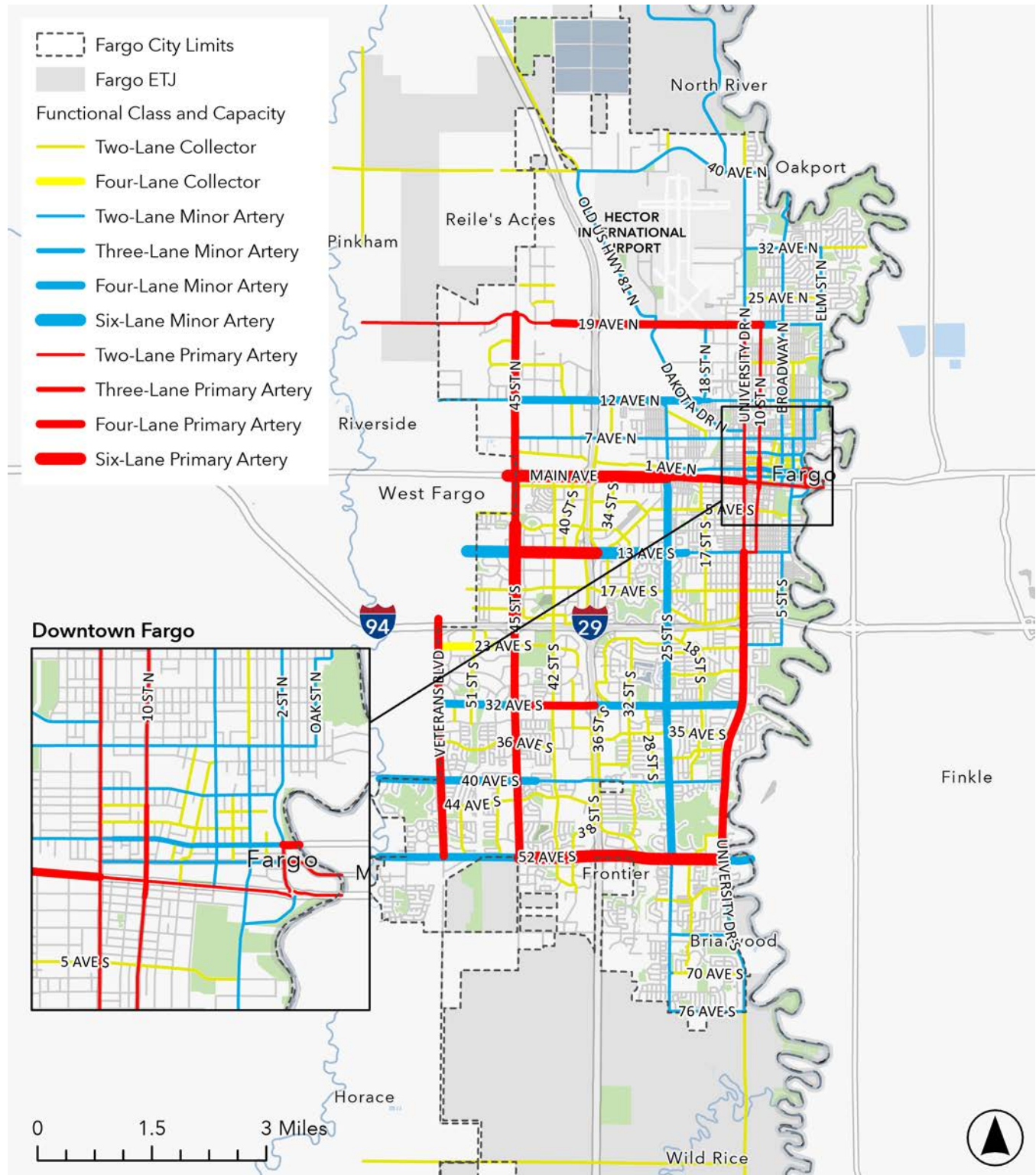
Low speed (30 mph), low traffic volumes, and limited access control. Collects local roadway traffic and connects to major collectors and arterials.



Local Roadways

Lowest speed (25 mph), lowest traffic volume roadways, with minor access control. Provides direct access to land.

Figure 10: Existing Roadway Network

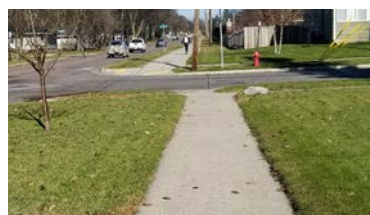




Bicycle and Pedestrian Facilities

Fargo's bicycle and pedestrian network consists of multiple facility types as shown in Table 3. In total there are more than 756 miles of sidewalks, 37 miles of bikeways (all types), and nearly 150 miles of shared use path. The existing pedestrian and bicycle network is shown in Figure 11.

Table 3: Pedestrian and Bicycle Facility Types and Mileage



Sidewalks

Paved pedestrian paths found adjacent or parallel to roadways. Bicyclists may or may not be permitted to use. Typically, 4' to 6' wide and appropriate for all roadway types.



Bike Lanes

Pavement markings that delineate a lane dedicated for cyclists. Typically 4' to 6' wide and appropriate for moderate volume roadways, depending on context.



Shared Use Paths

A paved path at least 8' (10 feet with shy zone preferred) that permits pedestrians and cyclists to use the space. Can be adjacent to roadways or other features (drains, river).



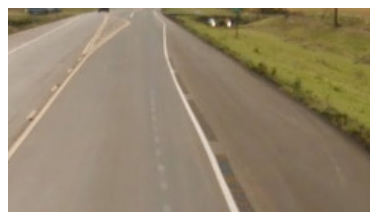
Shared Lanes/Sharrows

Pavement markings to delineate that cyclists should use the full roadway width. Appropriate for low volume and low speed roadways.



Separated Bike Lanes

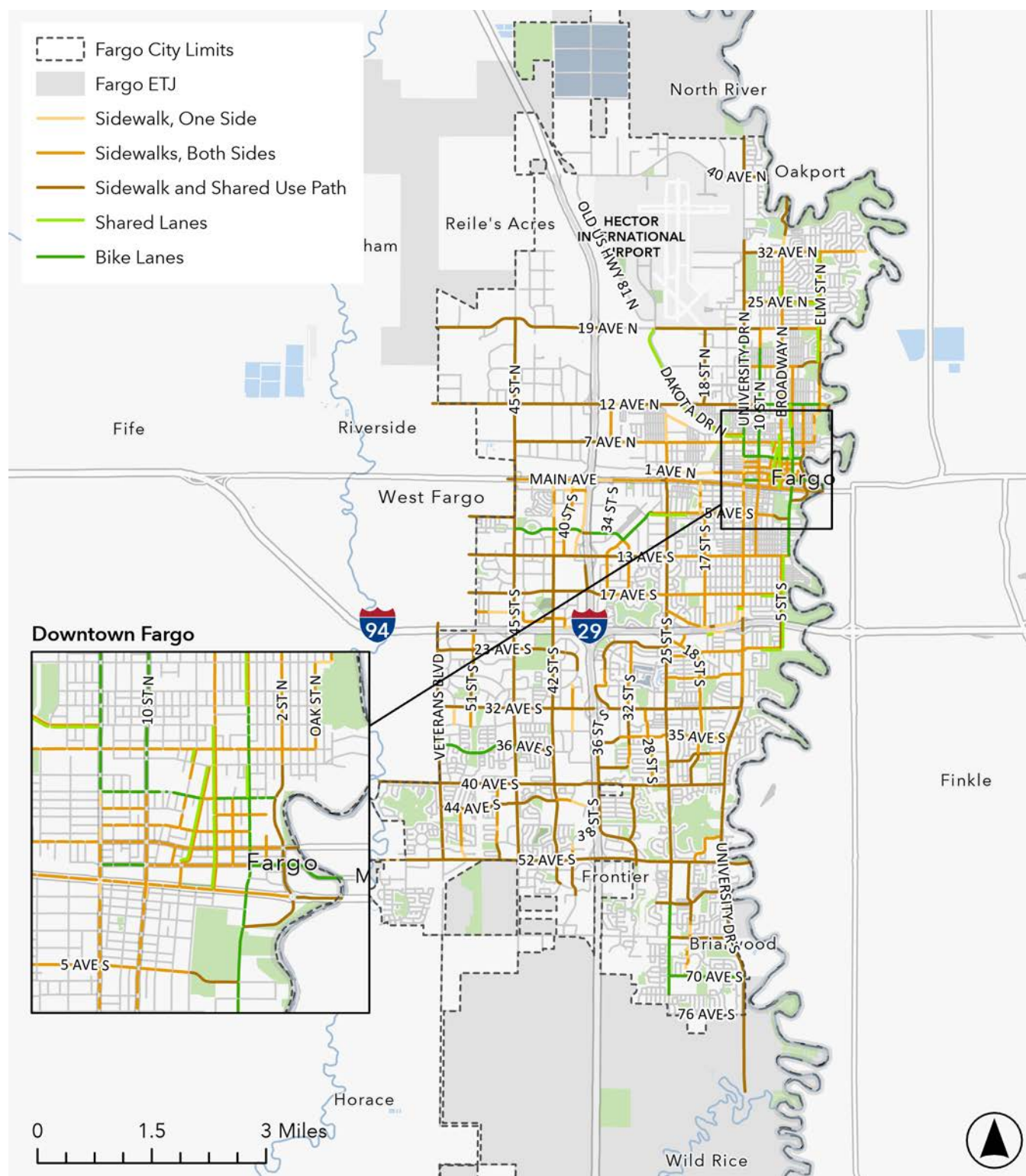
Separate space for bicyclists with paint or physical separation between the roadway and bike lane. Typically 4' to 6' wide and appropriate for moderate volume and moderate speed roadways.



Wide Shoulders

Wide shoulders, generally 6' or wider (depending on traffic speed and volumes) that serve as pedestrian and bicycle facilities. This facility is typically found in rural areas.

Figure 11: Bike and Pedestrian Transportation Network



Transit

Metro Area Transit (MATBUS) is the transit service provider for Fargo and the surrounding metropolitan area. In total it operates 22 fixed routes, with 15 running within the city. Some of these routes—including 13U, 31, 32E, 32W, 33, and 34—only operate during the academic year, August through May, primarily serving NDSU students, staff, and faculty. Table 4 shows the routes that serve the city and their frequency. The routes are shown in Figure 12.

Every five years, transit within the metro area receives an extensive review of operations, service frequency, route alignments, and other policies and initiatives. Because that review is recurring and comprehensive, the transit analysis presented in this plan is limited and focused on ensuring high quality transit facilities are supported through multimodal planning, including bicycle and pedestrian access and adequate vehicular level of service.

Table 4: MATBUS Route Frequencies

FREQUENCY	ROUTES
15 Minutes	15 ² , 31 ¹ , 33 ¹
20 Minutes	34 ¹
30 Minutes	11 ³ , 13 ³ , 13U ¹ , 14 ³ , 15, 32E ² , 32W ²
60 Minutes	11 ³ , 13 ³ , 14 ³ , 16, 17, 18, 20, 24

¹Only operates during academic year, August through May

²Operates with 15-minute headways until 5:45 PM, then with 30-minute headways

³Operates with 30-minute headways until 6:15 PM, then with 60-minute headways

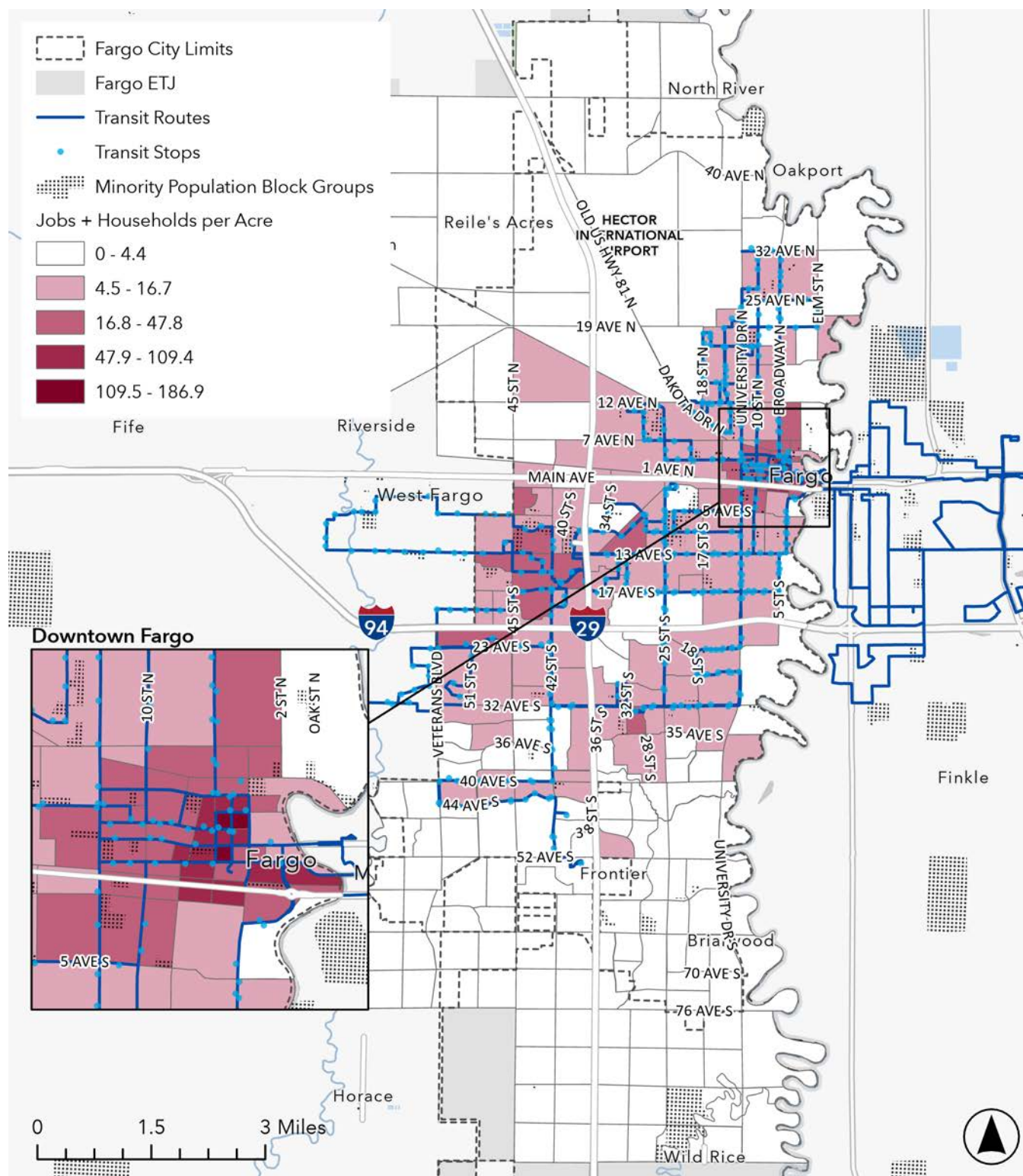
CONNECTION TO LAND USE & OTHER FACTORS

Like other modes, transit use is often correlated with factors external to the transit facilities. Often, demand for transit is highly related to land use density, that is, the number of jobs or households in any given area. Higher residential and job densities see higher transit use and lower residential and job densities tend to see lower transit use. Therefore, it is most functional to provide high-quality transit through the densest areas of the city.

Other demographic factors, like age, (youth, college students, and the elderly), income, and race/ethnicity, may also contribute to higher transit use. Often transit serves environmental justice populations (areas of poverty and non-white populations) to connect them to jobs and services they rely on and minimize the transportation burden these populations often experience.

Figure 12 shows the job and household density throughout Fargo, minority population block groups, and the transit routes.

Figure 12: Existing Transit Routes Overlaid on Land Use Density



ADDITIONAL CONSIDERATIONS

In addition to the four modes of transportation discussed, there are additional transportation considerations that impact the efficiency and safety of the system and its users, such as:

- **Truck Freight.** Even before the pandemic, American's consumption habits were changing, with accelerated growth in online shopping and delivery causing a major increase in demand for freight shipments. Combine this with North Dakota's crude oil and agricultural production and managing freight demand becomes an incredibly important element. However, this multimodal analysis does not specifically address freight movements because the regional planning body (Metro COG) conducts a regular evaluation of freight and its needs at a regional level. At the most basic level, the vehicular level of service should address the most critical freight mobility needs.
- **Parking, rideshare, micromobility, and curb space management.** In the densest areas, managing parking, rideshare, micromobility, and curb space is a growing consideration for cities across the country. Each requires specific, localized data that is inaccessible for a study at this scale. The recently completed Downtown InFocus plan addresses many of these concepts and therefore they were not included in this plan.



MULTIMODAL APPROACH TO MOBILITY

In transportation planning, roadways have traditionally been graded solely based on the level of vehicle congestion, referred to as “Level of Service” or LOS. LOS refers to a letter grade, A through F, to indicate how much vehicle traffic is present on the roadway compared to its capacity. While it is sometimes used to identify roadways in need of improvements by identifying roadways that are “failing,” LOS traditionally ignores all other travel modes on the roadway.

Many agencies, including the City of Fargo, have begun moving away from LOS as the sole criteria determining roadway design. Today, the City’s transportation system is designed to provide safe and accessible facilities for all roadway users, including bicyclists, pedestrians, and those accessing transit. This means that roadway projects in the future will not be designed solely to improve vehicle travel speeds and alleviate congestion, but will be designed and evaluated in such a way that provides adequate multimodal facilities appropriate for the street’s context, and improves safety for all.

This context-sensitive criteria means that some roadways will continue to provide high mobility for vehicles, but others may focus more on slow-speed travel and safety facilities for cyclists and pedestrians. The design depends on a variety of factors, including the street’s role in the network and the surrounding land uses.

This document provides a number of tools that will be used to help the City develop projects through a multimodal lens, rather than a traditional vehicle-first approach. These include:

- An updated **Complete Streets policy**
- Updated **Street Design Guidelines**, which detail context-sensitive design for roadways based on their role in the system
- A set of short- and medium- term **priority projects** that focus on closing multimodal network gaps
- **Policy recommendations** to bring select City processes in line with a more multimodal approach
- **Innovative design** recommendations to expand the City’s toolbox of options

Design decisions often require tradeoffs, and the tools in this plan are intended to guide planners and engineers to analyze those tradeoffs and make recommendations throughout the decision-making process.

PEER CITIES COMPARISON

Comparing Fargo to similar communities helps us understand the strengths and weaknesses of the City's transportation system. This brief analysis details relevant data comparing Fargo with five peer cities regarding safety, infrastructure investment, and demographic markers of transportation. The five peer cities were chosen because they are relatively similar in size and geographic context to Fargo. With the exception of Fort Collins, all are located in the upper Midwest. All cities have different variables at play, and no city is the perfect comparison. Comparing Fargo to multiple municipalities gives us a clearer picture of where Fargo stands on transportation safety and investment and how it could improve via the Fargo Transportation Plan.

PEER CITIES

Bismarck, North Dakota

POPULATION: 75,092

Bismarck is the capital city of North Dakota. Its transportation network includes I-94, which connects it to Fargo and other cities in the region. The city offers a regional public transit system called Bis-Man Transit and has a network of biking and walking trails such as the Missouri Valley Legacy Trail.

Sioux Falls, South Dakota

POPULATION: 206,410

Sioux Falls is the largest city in South Dakota. Three interstates (I-90, I-29 and I-229) intersect the city and frame its roadway network. Public transit service is operated through the Sioux Area Metro. Biking and walking facilities include the Sioux Falls Bike Trail, which is over 30 miles long and offers views of the Big Sioux River.

Des Moines, Iowa

POPULATION: 210,381

Des Moines is the capital of Iowa and the state's largest city. Interstates 35 and 80 provide connections for longer vehicular trips. Transit service is provided by Des Moines Area Regional Transit Authority (DART). Des Moines has a network of bike and walking trails including the Principal Riverwalk.



Rochester, Minnesota

POPULATION: 122,413

Rochester is the third-largest city in Minnesota and is home to the Mayo Clinic. US Highway 52 and I-90 connect the city to the region. Rochester Public Transit operates a bus system in the city. Rochester has a well-known commitment to biking and has invested in a network of on- and off-street connections including the Douglas State Trail and the Zumbro River Trail.

Fort Collins, Colorado

POPULATION: 170,376

Fort Collins is located about 60 miles north of Denver. Its road network is anchored by I-25, which runs along the eastern edge of the city. Fort Collins is known for its robust bicycle network, biking culture, and walkable Downtown. Fort Collins is a Platinum-rated Bicycle Friendly Community and maintains more than 200 miles of dedicated bike lanes and 50 miles of marked or signed bike routes. Public bus routes operate via the Transfort system.



Sioux Falls, SD

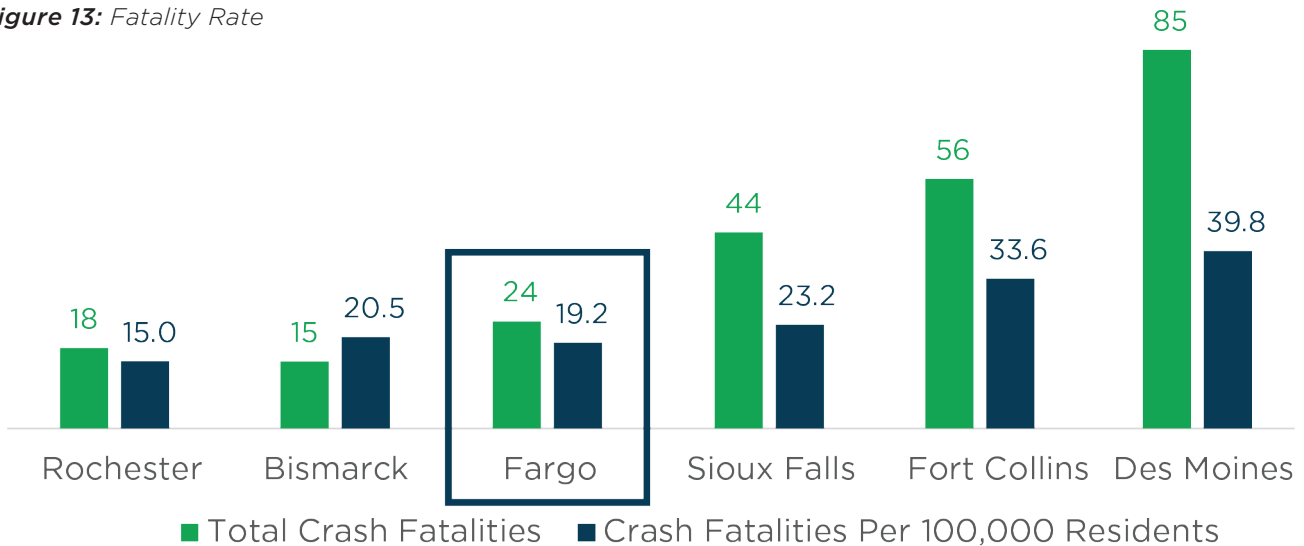


Fort Collins, CO

FATALITY RATE

The roadway crash fatality rate is a helpful metric for understanding road safety. The National Highway Traffic Safety Administration (NHTSA) annually publishes crash fatality data via the Fatality Analysis Reporting System (FARS). This data makes it easy to compare road safety across cities and states. The graph below shows the total crash fatalities between 2017 and 2021, as well as the crash fatalities per 100,000 city residents.

Figure 13: Fatality Rate

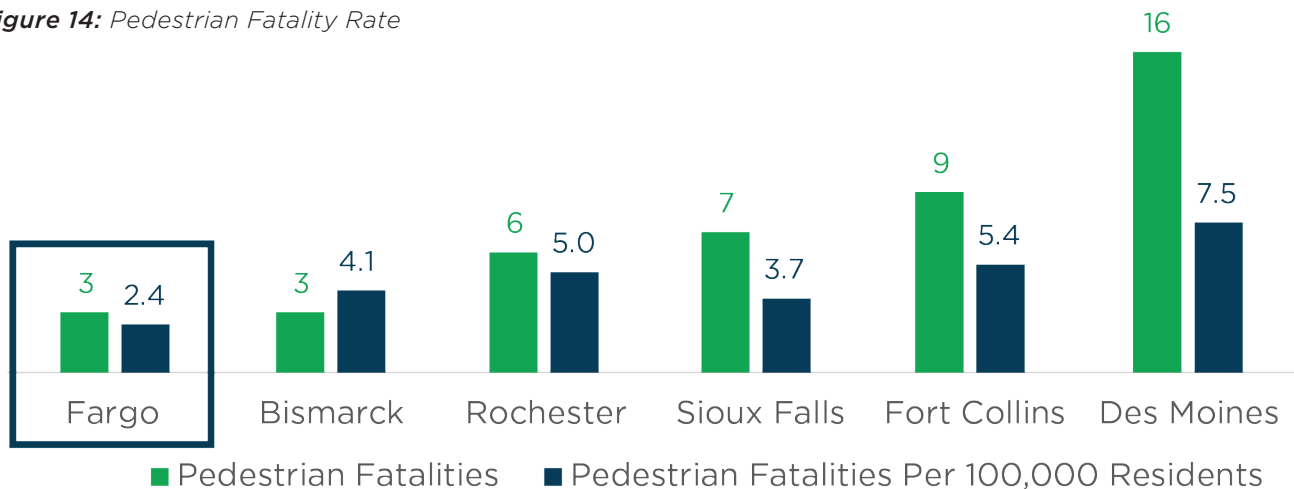


Des Moines had the highest road fatality rate among the peer cities, at 85 total fatalities or 39.8 per 100,000 residents. Fargo's 24 fatalities between 2017 and 2021 put it in the middle of this group, with a relatively low number of fatalities per 100,000 residents.

PEDESTRIAN FATALITY RATE

Pedestrians are uniquely vulnerable road users, and if hit by a vehicle, they are much more likely to be seriously injured or killed. The chart below shows the number of pedestrians killed in crashes from 2017-2021 in Fargo and its peer cities. Fargo had a relatively low pedestrian fatality rate compared to its peers, with 3 total pedestrians killed or 2.4 per 100,000 residents.

Figure 14: Pedestrian Fatality Rate

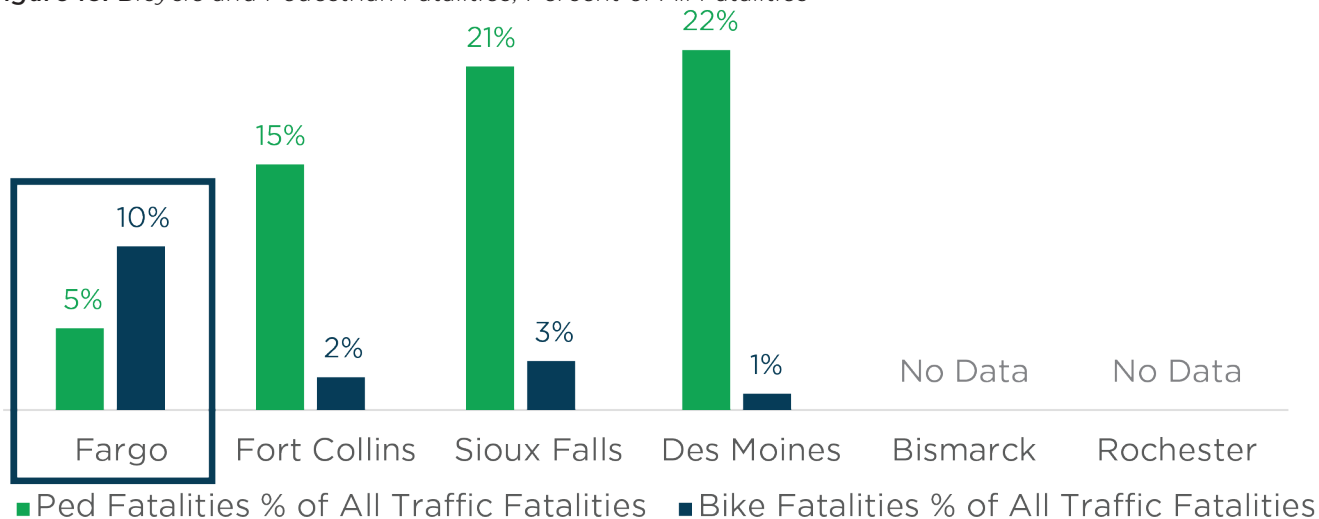


BIKE & PEDESTRIAN FATALITIES, PERCENT OF ALL FATALITIES

Another way to visualize pedestrian and bicycle traffic fatalities is as a percent of all traffic fatalities. This data is from the League of American Bicyclists Benchmarking Project, which includes fact sheets for all the chosen peer cities except for Bismarck and Rochester.

Fargo has a lower pedestrian fatality rate than its peer cities, compared to the overall number of traffic fatalities. However, Fargo has a much higher rate of bicyclist fatalities – 10 percent of all traffic fatalities were bicyclists during this time period.

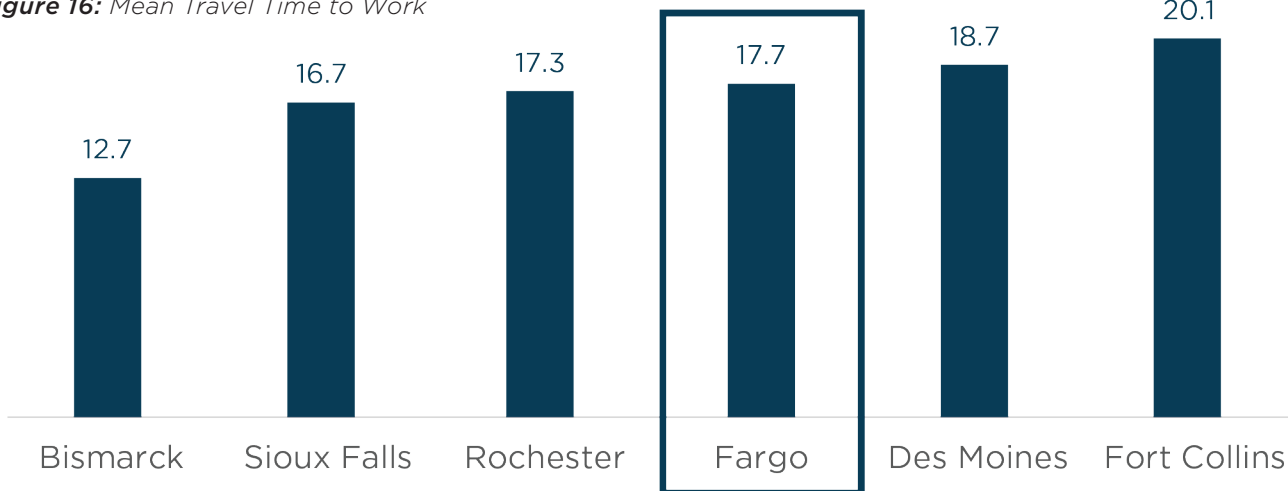
Figure 15: Bicycle and Pedestrian Fatalities, Percent of All Fatalities



MEAN TRAVEL TIME TO WORK

Travel times measure how long it takes workers 16 years or older to get to their place of employment. Longer commute times could be due to congestion, distance traveled, or use of a slower mode like walking or bicycling. The average Fargo commuter drives 17.7 minutes to work. This places it in the middle between the longest travel time to work (Fort Collins, 20.1 minutes) and the shortest (Bismarck, 12.7 minutes).

Figure 16: Mean Travel Time to Work

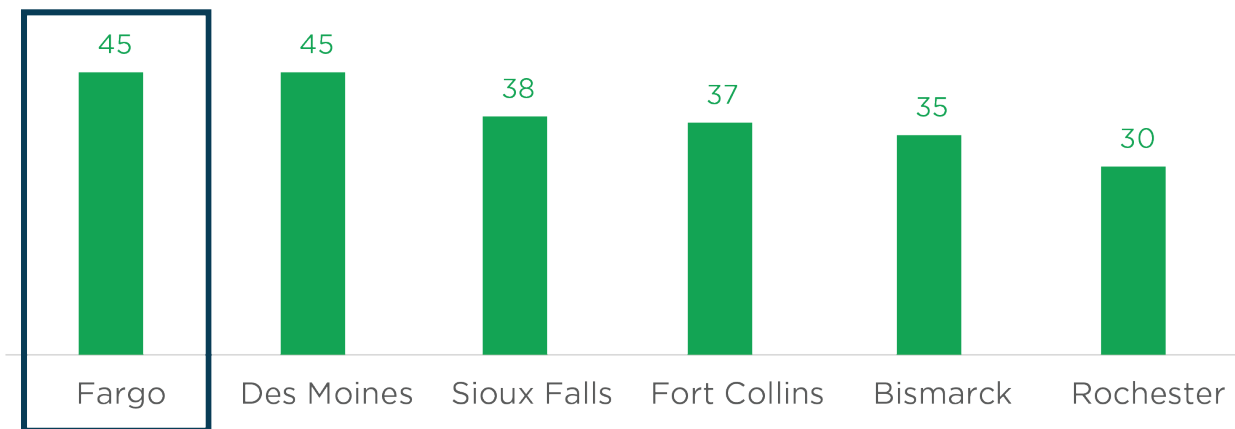


WALK SCORE

Walk Score is an online initiative that measures the walkability of neighborhoods and cities. Walk Score analyzes the distance to amenities, especially those within a five-minute walk. Walk Score also uses population and intersection density metrics from sources including the US Census, OpenStreetMap, and Great Schools.

The graph below shows the Walk Score for Fargo and the peer cities chosen. According to the metrics measured, Fargo is fairly walkable compared to its peer cities. Fargo's historic downtown and grid system lends itself well to having walkable destinations, especially near the core of the city. Investments in walkable neighborhoods could help Fargo become more walkable in the future.

Figure 17: Walk Score

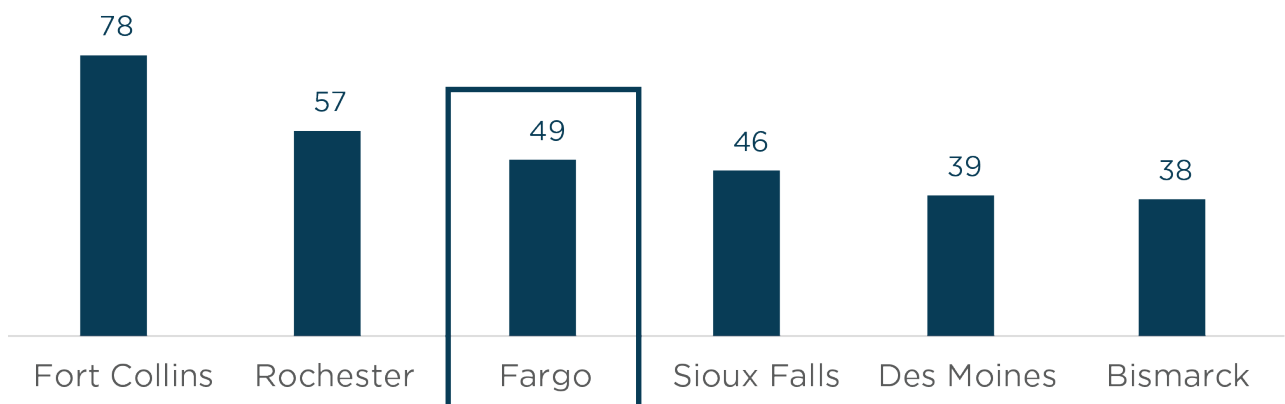


BIKE SCORE

Bike Score is a metric published by Walk Score that measures whether a location is good for biking, on a scale of 0 (minimal bike infrastructure) to 100 (daily errands can be accomplished on a bike). Four components are included in the Bike Score: bike lanes, hills, destinations and road connectivity, and bike commuting mode share.

Fargo's Bike Score is 49, meaning that the city is somewhat bikeable but has a long way to go to create an easy-to-use bike network. Bismarck, Sioux Falls, and Des Moines are slightly less bikeable than Fargo, while Rochester and Fort Collins are significantly more bikeable.

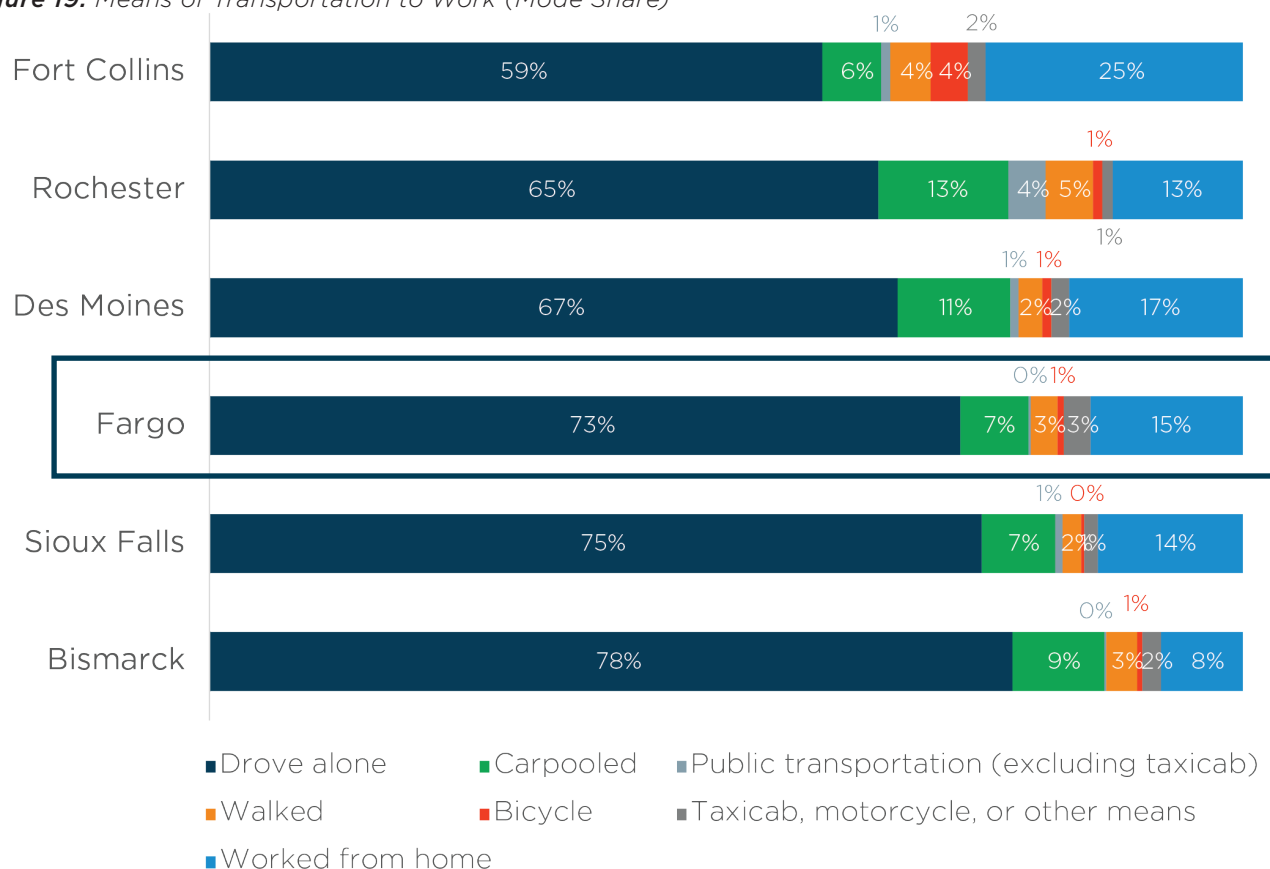
Figure 18: Bike Score



MEANS OF TRANSPORTATION TO WORK (MODE SHARE)

Measuring the way that people travel to work (mode share) is useful for understanding whether people use options such as transit, walking, and biking for transportation (rather than only recreation). Most people who live in Fargo and the peer cities chosen drive alone to their place of work. This is true in most communities in the United States, but many hope to increase the share of commutes via alternate modes. This transition is called mode shift, and many communities establish a mode shift goal for increasing commute trips via alternate modes through investment in biking, walking, and transit.

Figure 19: Means of Transportation to Work (Mode Share)



According to the graph above from ACS 2021 5-Year Estimates, Fargo's mode share largely resembles its peer cities. Rochester, Fort Collins and Des Moines have a greater percent of their workers who take alternate modes to work such as carpooling, public transit or bicycling.

Fargo has a lower percent of people who worked from home in 2021 compared to Des Moines or Fort Collins, but higher than the other peer cities on this list. It is important to note that the percentage of people working from home in 2023 is likely significantly lower than in 2021 due to the COVID-19 pandemic.

VISION ZERO

Vision Zero is an international strategy to end traffic fatalities and serious injuries while increasing safe, healthy, equitable mobility for all. North Dakota adopted a statewide Vision Zero Plan in 2018, and many of Fargo's peer cities have adopted their own Vision Zero commitments. Vision Zero focuses on eliminating serious crashes through better road design, safety education, emergency response, and policymaking.

The following peer cities are recognized as Vision Zero communities:

Vision Zero Fort Collins

Fort Collins adopted a Vision Zero Plan in 2023 which identifies 10 specific actions the City will take over the next 10 years to eliminate traffic fatalities and serious injuries on the city's transportation network. The plan showcases crash trends and identifies a High-Injury Network (HIN) where serious crashes are concentrated.

Vision Zero Des Moines

The City of Des Moines is currently developing a Vision Zero Action Plan and has identified a High-Injury Network where fatal/serious injury crashes are concentrated.



BICYCLE FRIENDLY COMMUNITIES

The Bicycle Friendly Community program by the League of American Bicyclists provides a roadmap to communities to improve conditions for bicycling. A Bicycle-Friendly Community provides safe accommodations for bicycling, encouraging people to bike for transportation and recreation.

Many cities and towns across the United States are recognized as Bicycle Friendly Communities, and are categorized as Platinum, Gold, Silver, and Bronze according to their level of bicycle friendliness. Fargo was recognized as a Bicycle Friendly Community in 2014 and has Bronze status. The following peer cities are also recognized as Bicycle Friendly Communities.

Sioux Falls

Sioux Falls is recognized as a Bronze-level Bicycle Friendly Community. Sioux Falls adopted a Complete Streets policy in 2015 and separate Bicycle and Pedestrian Plans, demonstrating their commitment to providing safe accommodations for all road users.

Des Moines

Des Moines is also a Bronze-level Bicycle Friendly Community, and was first recognized in 2006. Des Moines adopted a Complete Streets policy in 2018 and a Bicycle Plan in 2011.

Fort Collins

Fort Collins is a Platinum-level Bicycle Friendly Community, a recognition for the highest level of investment in an easy-to-use bike network. Over four percent of workers in Fort Collins bike to work, and the City hopes to increase this number. Fort Collins adopted a Complete Streets policy in 2004 and separate Bicycle and Pedestrian Plans in 2014.



VISION AND GOALS

Since the Fargo Transportation Plan builds upon a series of robust planning efforts, the plan's vision and goals align with what the community has repeatedly identified as important. Over the past decade, the community has continued to affirm an emphasis on improving safety, access to active transportation, sustainability, and an emphasis on Complete Streets.

	MAJOR THEMES						
	SAFETY	INNOVATION	MULTIMODAL ACCESS	PROMOTE CONNECTIVITY	EMPHASIZE MAINTENANCE	LAND USE COORDINATION	EQUITABLE ACCESS
GO2030		✓	✓	✓		✓	
FARGO-MOORHEAD BIKE PLAN	✓		✓	✓	✓		✓
FARGO/WEST FARGO PARKING & ACCESS						✓	
DOWNTOWN INFOCUS	✓	✓	✓			✓	✓
2045 MTP	✓		✓		✓		
FM BIKEWAYS GAP ANALYSIS	✓			✓			
SAFE ROUTES TO SCHOOL	✓		✓				✓
CORRIDOR STUDIES			✓	✓		✓	

The Vision and Goals outlined on the following page are foundational to the Transportation Plan. All recommendations, policies, and strategies will be analyzed based on their alignment with the community's goals, and the vision statement will guide the overall plan strategy.

VISION

The Vision Statement guides the plan's overall direction and strategy. The Transportation Plan's Vision Statement is:

“The City of Fargo will provide a multimodal transportation system that supports the community's livability, sustainability, and economic development goals. Traveling in Fargo will be safe and comfortable for users of all ages and abilities, no matter their mode of travel.”



GOALS

To align with the goals and themes identified in previous plans, a single set of consolidated goals has been developed for the Transportation Plan, as shown below.



SAFETY

Improve safety for all roadway users through data-driven design.



COMPLETE STREETS

Develop a transportation network that provides opportunities for multiple modes of travel and users of all ages and abilities.



ACCESS TO OPPORTUNITY

Provide multimodal connections to jobs, services, education, housing and healthcare.



CONNECTIVITY

Promote a connected street grid to enhance walkability and neighborhood design.



INNOVATION

Embrace national best-practices for transportation management, maintenance, and design.



LIFE CYCLE SUSTAINABILITY

Align transportation design and land use policy to promote fiscally sustainable development patterns.

2: SAFETY

INTRODUCTION

Traffic safety is a high priority for all agencies responsible for managing transportation facilities. North Dakota Department of Transportation has adopted the Vision Zero traffic safety strategy that aims for zero traffic related fatalities. The City of Fargo supports this traffic safety strategy through the Metropolitan Transportation Plan, Metro Grow, and the targets established therein. Crash trends on roadway segments (roadways between two intersections) and at intersections are often a primary reason for a wide variety of roadway improvements.

SAFE SYSTEM APPROACH

The Safe System Approach is based on the principle that no loss of life is acceptable in our transportation system, and that communities can plan with human mistakes and vulnerabilities in mind. The Safe System Approach, adopted by the US Department of Transportation as its guiding paradigm, is acknowledged by experts as an effective way to address and mitigate the inherent risks associated with the transportation system. It builds and reinforces layers of protection, aimed to prevent crashes from happening and minimize the severity of those that do. This holistic approach aims to create a transportation system that is safer for people.

The Safe System Approach has five components:

- Safe Road Users
- Safe Vehicles
- Safe Speeds
- Safe Roads
- Post-Crash Care

The key principles of the Safe System Approach are the following:

Deaths and serious injuries are unacceptable. We look specifically at crashes that result in death or serious injury because safety is the number one priority.

Humans make mistakes. Mistakes can lead to crashes. We can build a transportation system that anticipates human mistakes to ensure that crashes aren't serious or fatal.

Humans are vulnerable. People can only tolerate so much force in a crash, so we must build a transportation system that is centered on human needs and vulnerabilities.

Responsibility is shared. Everyone, including those who manage and use the transportation system, is responsible for preventing fatal and serious injury crashes.

Safety is proactive. Instead of waiting for crashes to occur, we should anticipate risks and proactively find solutions to make these places safer.

Redundancy is crucial. All parts of the transportation system must be strengthened. This way, if one part fails, the other parts still protect people.

Figure 20: Safe System Approach



CRASH ANALYSIS

This plan evaluated five years of crash records between January 1, 2016 and December 31, 2020 which were collected from NDDOT. From 2016 through 2020, there were 19,753 crashes reported during this period throughout the city. This corresponds to an average 3,951 crashes per year. Of the total crashes, 20 percent resulted in a fatality or injury, including the possible injury classification.

CRASH RATE ANALYSIS

Crash rate analysis was completed for all functionally classified roadway segments (roadway between two intersections) and intersections. Crash rate analysis incorporates roadway characteristics (number of lanes, traffic control) and traffic volumes into the analysis to normalize the data. This means that crash rates at an intersection that carries only 1,000 vehicles per day and an intersection that carries 10,000 vehicles per day can be compared equally. A location's crash rates are then compared to the average crash rate for that type of facility. Where a location's crash rate is higher than the average crash rate its index is greater than one and indicates a statistically significant crash trend.

Figure 21 shows the intersections and segments with crash rates above the average.

Intersections

Table 5 shows the 10 highest crash rate intersections in Fargo. The top four intersections experienced 339 crashes with no fatal or serious injury crashes. The top crash rate intersection list differs slightly from the 2018 – 2020 Urban High Crash Locations list published by NDDOT. This may occur because the reporting period is different (three years instead of five).

Eight of the top 10 locations involve University Drive and 10th Street, the one-way pair that runs between 19th Avenue N and 13th Avenue S. One-way pairs should reduce conflict points, but relatively high traffic volumes and speeds have contributed to elevated crash trends on these corridors.

Segments

In addition to the top 10 segments, the crash rate analysis identified multiple corridors with above average crash rates that may warrant further investigation:

- 45th Street between 9th Avenue S and 32nd Avenue S (797 crashes)
- 32nd Avenue S between 42nd Street and University Drive (561 crashes)
- University Drive between 25th Avenue S and Main Avenue (625 crashes)
- 3th Avenue S between the I-29 North Ramps and 17th Street S (344 crashes)
- 10th Street between NP Avenue and 12th Avenue N (228 crashes)
- 7th Avenue N between 18th Street N and 2nd Street N (164 crashes)
- 15th Avenue N between University Drive and 4th Street N (70 crashes)

Figure 21: Above Average Crash Rate Intersections and Segments (Source: NDDOT)

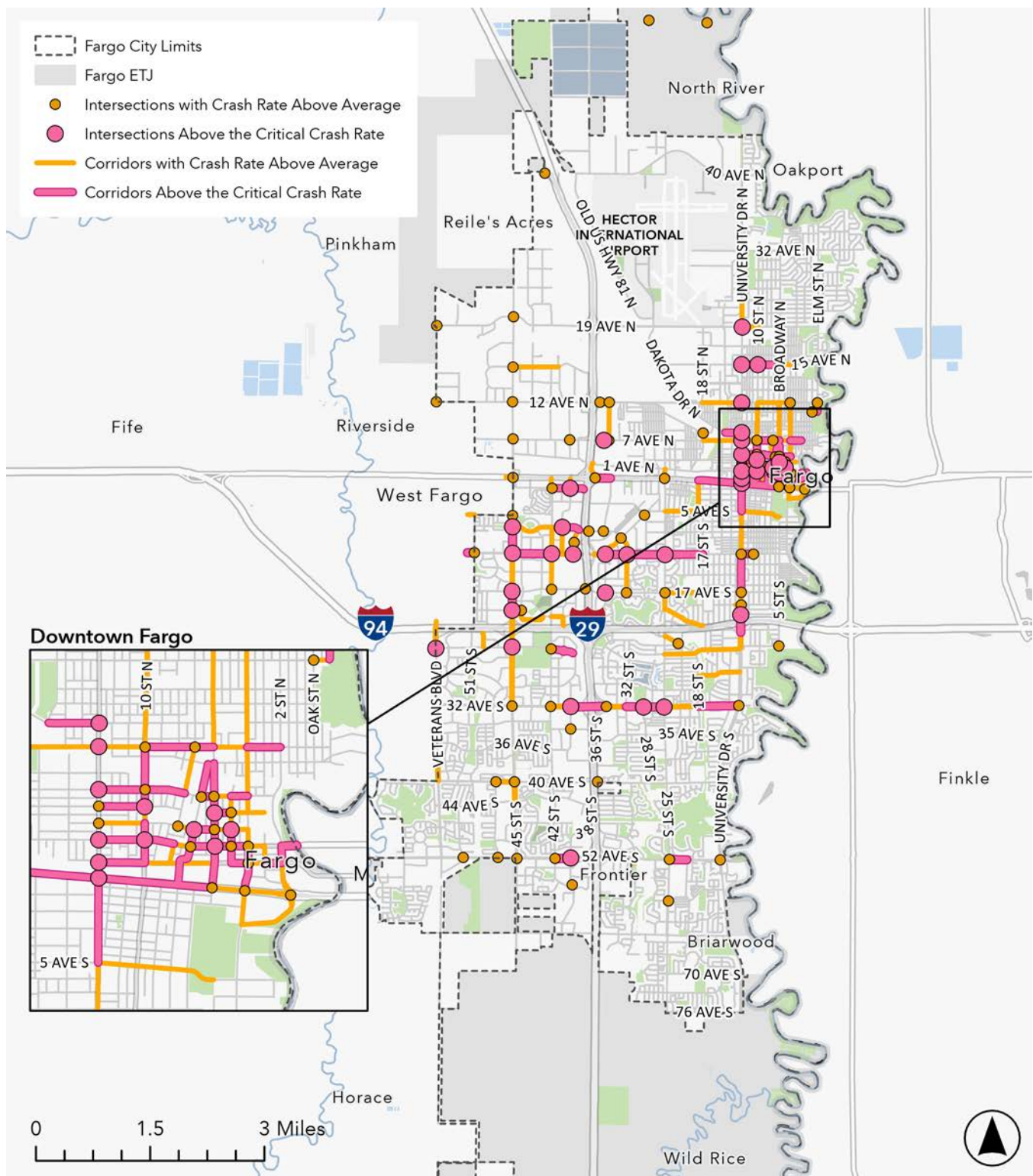


Table 5: Top 10 Crash Rate Intersections (Data Source: NDDOT)

INTERSECTION	TOTAL CRASHES	FATAL & SERIOUS INJURY CRASHES	CRASH RATE	RANK	REAR END	SIDE- SWIPE	LEFT TURN	BIKE/ PED	OTHER
University Drive & 19 th Avenue N	104	0	2.9	1	25	4	43	2	30
University Drive & 8 th Avenue N	63	0	2.7	2	12	0	6	0	45
University Drive & 12 th Avenue N	54	0	2.4	3	14	1	19	0	20
13 th Avenue S & 25 th Street	118	0	2.0	4	40	5	36	1	36
University Drive & Main Avenue	95	2	2.0	5	34	1	20	3	37
1 st Avenue N & Broadway	58	1	1.9	6	14	1	7	1	35
University Drive & Interstate Ramps (WB)	46	0	1.7	-	19	0	13	1	13
10 th Street N & 1 st Avenue N	61	1	1.7	7	3	2	16	2	38
13 th Avenue S & 38 th Street S	80	1	1.6	8	43	0	13	0	24
University Drive & 7 th Avenue N	41	0	1.6	9	17	2	7	0	15
University Drive & 15 th Avenue N	30	0	1.5	10	12	1	4	1	12

Bicycle and Pedestrian Crashes

Between 2016 and 2020, there were 266 bicycle and pedestrian crashes across Fargo, as shown in Figure 11. This included three fatalities, two involving a bicycle and one pedestrian. The two bicycle fatalities occurred on 36th Street south of 32nd Avenue and the intersection of 45th Street and 17th Avenue S. The pedestrian fatality occurred at the intersection of 42nd Street and 10th Avenue S. In addition to the fatal crashes, there were 25 incapacitating injuries, 146 non-incapacitating injuries, and 78 possible injuries. Ultimately, just 5.3 percent of crashes involving bicycles and pedestrians did not result in an injury.

Nearly 55 percent of all bicycle and pedestrian occurred at intersections. Many of these crashes involved turning vehicles (53 percent) or intersections with traffic signals (49 percent). There are no time-of-day trends identified.



IMPLEMENTATION

VISION ZERO

Vision Zero is a strategy to eliminate all traffic fatalities and serious injuries, while increasing safe, healthy, equitable mobility for all. Traffic crashes are typically called “accidents,” but in reality, there are many actions that can prevent serious and fatal crashes. Everyone has a role to play in crash prevention—planners, engineers, public health professionals, law enforcement, elected officials, and all who share the roads.

Vision Zero is a worldwide movement that began in Sweden in 1997. It has since spread to many countries around the globe. Vision Zero is a holistic approach to road safety that acknowledges imperfect human behavior and puts safety first.

In January 2018, leaders of the State of North Dakota adopted Vision Zero as the primary statewide traffic safety initiative. A statewide Vision Zero Plan was adopted the same year with coordination from state and local governments including the City of Fargo and Metro COG.

Metro COG is currently developing a Safe Streets for All (SS4A) Comprehensive Safety Plan. SS4A is a USDOT discretionary grant funding program. The SS4A program supports USDOT’s National Roadway Safety Strategy, and goal of zero roadway deaths using a Safe System Approach. The plan will apply the Safe System Approach to develop a regional safety analysis and identify priority projects that would help the region and the City achieve Vision Zero. By 2025, the City of Fargo intends to make a formal Vision Zero commitment.

SAFE ROUTES TO SCHOOL

SRTS is a federal program that funds projects that make it safer and more convenient for children to walk or bike to school. Projects eligible for funding under this program must substantially improve the ability of students to walk and bike to school, and may include:

- ▶ On- or off-street bicycle and pedestrian facilities or improvements to existing facilities
- ▶ Pedestrian and bicycle crossing improvements
- ▶ Traffic calming and speed reduction improvements
- ▶ Non-infrastructure projects such as public awareness campaigns, education, and enforcement

The Fargo Transportation Plan supports implementation of improvements identified in the City of Fargo’s SRTS Plan, which was adopted in February 2020

TRAFFIC CALMING POLICY

Traffic calming is the deliberate slowing of traffic to improve safety in residential areas through physical infrastructure like speed humps, raised crosswalks, median islands with landscaping, road narrowings and roundabouts. The City of Fargo has an application process for traffic calming improvements to be installed in neighborhoods. This process should continue to be used to improve safety on neighborhood streets in Fargo.

SAFETY-CENTERED APPROACH

Fargo’s approach to transportation planning is anchored in safety as its central priority. Safety means more than relying on safe behaviors from individual road users—we can plan for safety by taking a holistic approach which includes road design, vehicle safety, and more. All users, including pedestrians, bicyclists, people with disabilities, transit users, freight operators, and vehicular users must be able to get where they need to go safely.



RIDE WITH US!

15

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3: COMPLETE STREETS & ACCESS TO OPPORTUNITY

INTRODUCTION

This chapter introduces key considerations and recommendations related to two goals of the Fargo Transportation Plan: **Complete Streets** and **Access to Opportunity**. Fargo will create a transportation network that provides opportunities for multiple modes of travel and users of all ages and abilities, allowing people to access jobs, services, education, housing, and healthcare.

This chapter is comprised of the following sections:

- › Policy Framework
- › Complete Streets Policy
- › Street Design Considerations
- › Multimodal Toolbox
- › Transit-Supportive Design
- › Intersection Toolbox
- › Street Design Guidelines
- › Additional Considerations



FOUNDATIONS REPORT

POLICY FRAMEWORK

These policy recommendations establish the City’s goal of providing Complete Streets and improving access to opportunity. These policy approaches frame the resources and approaches contained in the following chapter of the Fargo Transportation Plan.

***Policy Spotlight:* Plan future roadway projects using this plan’s context-sensitive design standards**

The term “context-sensitive design” refers to roadway designs that are tailored to the neighborhood surrounding them and the destinations and users the road serves. Context-sensitive solutions fit with the City’s Complete Streets approach to street design by recognizing that streets should be tailored to the needs of the community, rather than planned via a one-size-fits-all approach.

Context-sensitive design standards reflect the reality that communities have different needs depending on the neighborhood. Areas near major commercial or industrial hubs might focus on accommodating heavy truck volumes safely, while residential areas near schools, churches, and parks should focus on sidewalk connectivity and safe pedestrian crossings. Ensuring each road responds to the needs of the users in that area makes travel safer and more comfortable for all, improves the community’s quality of life through better urban design.

BEST PRACTICES

Historically, many of Fargo’s street designs focused on improving or removing traffic congestion and planning for high future traffic volumes. Over the past several years, the City has recognized the need to shift to a more context-sensitive approach that takes land use into account. This can be seen in “road diet” approaches; such as Main Ave between 9th and 2nd Street South, or in the NP Ave and 1st Ave one-way conversion. The street design guidelines included in this plan, which include multimodal goals and guidance for each context area, should be formally adopted and referenced in the Land Development Code rewrite in order to ensure that future roadway designs provide better mobility and better fit the needs of the community.

Actions:

As a part of this plan’s adoption, the City of Fargo should:

- › Integrate the design guidance provided in this plan into future planning and preliminary engineering processes to ensure land use context and multimodal approaches are applied consistently across the city.

As part of the Land Development Code rewrite, the City of Fargo should:

- › Develop a land use map that designates specific “context areas” within the city; ultimately harmonizing future land use planning with the City’s transportation plan.
- › Incorporate the street design guidance by reference in the Land Development Code.

Policy Spotlight: Align land use and transportation goals through mixed-use corridors and nodes

A city's land use pattern might be the single most important factor in determining how we travel around the city. Sprawling, suburban development patterns place homes far away from schools and workplaces, creating long commutes that require driving from place to place. Compact, mixed-use development patterns typically place destinations closer together, creating shorter trips, and making it possible to walk, bike, or take a bus between destinations. Encouraging mid-density mixed use corridors and nodes would create truly walkable neighborhoods that improve residents' quality of life.

Development in Fargo over the past several decades has followed a sprawling suburban pattern, mirroring 20th century trends that created car-centric neighborhoods. Research has shown that this development pattern creates congestion, increases pollution, reduces safety, and is more expensive to develop and maintain.

Now, the City of Fargo would like to promote a more fiscally sustainable land use pattern that improves residents' ability to travel to work or school without needing to drive. Concentrating mid-density development along major transportation corridors can create highly walkable neighborhoods that promote a high quality of life. Small changes such as promoting shared parking, reducing lot-line setbacks and encouraging more middle density housing can have major impacts on travel patterns.

As the City updates its land use plan, officials must take into account the future transportation impacts of each decision to determine if Fargo should continue on its current trajectory or focus on improving public health outcomes, promoting sustainability, and developing in a more fiscally responsible manner.

BEST PRACTICES AND GUIDELINES

There are numerous ways to improve transportation outcomes and encourage multimodal travel options through development guidelines. The Land Use Plan update and Land Development Code rewrite should include or address:

Actions:

Through the upcoming land use planning processes, the City should:

- Identify key transportation corridors as mixed-use development areas.
- Include key development guidelines that promote walkable development patterns, encourage the use of multimodal options, and improve connectivity.

- ✓ **Designate Mixed-Use Corridors or Nodes:** The Growth Plan should identify a set of priority transportation corridors and intersections to re-zone for mixed use development.
- ✓ **Shared Parking:** Include requirements or incentives for adjacent developments to share parking lots and access, reducing the amount of required surface parking.
- ✓ **Promote Infill:** Encourage existing sites to redevelop in a more dense manner by reducing parking requirements, setbacks, and incorporating built form guidelines.
- ✓ **Focus on Pedestrian Experience:** Require parking to be located behind the building and reduce front setbacks to encourage sidewalk activation.
- ✓ **Promote Missing Middle Housing:** Encourage mid-density housing developments, including townhouses, duplexes and small apartment or condo buildings to increase density in key areas.
- ✓ **Require Connections:** Require future developments to provide connections to existing and future sidewalks and trails, along with providing amenities such as bicycle parking.

COMPLETE STREETS POLICY

Complete Streets is an approach to planning, designing and building streets that enables safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. The Complete Streets Policy included below is Fargo's commitment to providing safe transportation options for all.

COMPLETE STREETS IS...

- › An approach to designing streets that work for all users
- › A process to guide decisions
- › A system-wide goal to view multimodal access through a holistic lens

COMPLETE STREETS IS NOT...

- › A specific design or facility type
- › A mandate to include specific multimodal facilities
- › A goal to prioritize one travel mode over another

COMPLETE STREETS POLICY STATEMENT

1. Purpose

The term Complete Streets means the process of planning, designing, building, and operating streets so they routinely and safely accommodate all modes of local and regional travel.

Completing a street will expand its capacity to serve everyone who travels on it, be it by motor vehicle, foot, bicycle, transit, or other means. Complete Streets are essential for those who cannot drive—because of age, disability, income, or other reason—and for those who choose not to drive to save money, protect the environment, or be healthier by living a more active lifestyle.

Complete Streets is not a revolutionary planning concept; it is essentially practicing coordinated, comprehensive and contextual planning and design. It is not a prescriptive design or outcome; it is a process based on guiding principles. Complete Streets and the concept of planning for Complete Streets are recognized nationally by numerous states and local jurisdictions.

The benefits of Complete Streets can be both qualitative and quantitative, and can act both in the short and long-term:

- › **Safety:** Reduction of conflict and encouragement of more predictable interaction among motorists, bicyclists and pedestrians of all ages and abilities
- › **Environmental:** Less air and noise pollution
- › **Maintenance:** Less use of roads by automobiles if significant mode shifts occur
- › **Congestion:** Integration of transit and non-motorized modes can reduce local congestion if a mode shift occurs
- › **Health:** Increased physical activity and reduction in healthcare costs
- › **Accessibility:** Approximately one-third of the population cannot or does not drive a car (Complete Streets Report, 2009, MnDOT); increased compliance with the Americans with Disabilities Act (ADA) will provide better access for people of all ages and abilities

- **External Costs:** Reductions correlated with less costly modal choices
- **Economic Activity:** A network of Complete Streets is safer and more appealing to residents and visitors, which is good for retail and commercial development.
- **Quality of Life:** A variety of transportation options allow everyone—particularly people with disabilities and older adults—to get out and stay connected to the community.

The establishment of well-connected walking and bicycling networks is an important component for livable communities. The overall design of a community's transportation system will have a significant effect on its perceived livability. Walking and bicycling foster safer, more livable, more family-friendly communities; promote physical activity and healthy lifestyles; and reduce vehicle emissions and fuel use.

2. Complete Streets Statement

Complete Streets is an on-going and comprehensive planning, design, construction, and operations process, with a long-range perspective, aimed at improving safety, usability, and quality of life. By embracing Complete Streets, the City of Fargo seeks to plan and program public rights-of-way that fully integrate and balance the needs of all street users, including bicyclists, pedestrians, transit users, commercial vehicles, emergency services vehicles and passenger vehicles. Users of all ages and abilities will be considered. The Complete Streets process will apply to street projects, including construction, reconstruction, and maintenance. Because Complete Streets are context sensitive, a Complete Street in one neighborhood may look very different from a Complete Street in another neighborhood, but both are designed to balance the safety and convenience for everyone using the public right-of-way. Successful achievement of this vision will result in the creation of a complete transportation network for all modes of travel (as opposed to trying to make each street perfect for every traveler), and may result in fewer crashes, lower severity crashes, improved public health, less air, water, and noise pollution, as well as lower overall transportation costs for the public and for their governing bodies.

By approving this policy, the City of Fargo has dedicated themselves to planning, designing, constructing, and/or operating the transportation network to a higher/more inclusive set of planning goals. Exceptions to this standard should be rare.

3. Local Implementation Strategies

3.1 PLANNING

- Review codes, ordinances and zoning regulations and make changes necessary to remove barriers and assist in the achievement of the Complete Streets vision
- Utilize a public participation process that provides street users within the Fargo-Moorhead Metropolitan Area adequate notice of public input opportunities related to planning studies and street improvement projects (e.g. resurfacing, re-striping, or reconstruction projects)
- Where appropriate, ask transit provider(s) to review alternatives of corridor studies
- Include charrettes, walkability audits, bicycling audits and other forms of enhanced public input where appropriate to gain stronger, more detailed public input relative to Complete Streets planning efforts

3.2 DESIGN

- Consider when appropriate, roadway design that slows motor vehicles and/or limits access so as to provide greater safety for bicyclists, pedestrians and motorists (e.g. lane narrowing or the reduction of lanes; reduction of access etc.)


- Evaluate existing and potential on-road bicycle use in all repaving and re-striping projects (i.e. striping of bicycle lanes, wide curb lanes, paving of roadway shoulders or widening of curb lanes) as well as new roadway construction and reconstruction projects
- Evaluate the effectiveness of narrowing pedestrian crossing distances at intersections where high motor vehicle counts and high pedestrian counts are expected. Narrowing can be accomplished by the use of curb bump-outs, where practical
- Reduce the number of travel lanes on roadways where appropriate to create more operating room for bicyclists and to improve vehicular flow for motorists
- The latest design standards and guidelines should be used but not to the exclusion of design exceptions as needed for the safety and efficiency of bicyclists and pedestrians. Some common sources for design standards include:
 - AASHTO Guide for the Development of Bicycle Facilities
 - AASHTO's A Policy on Geometric Design of Highways and Streets
 - AASHTO's Guide for the Planning, Design, and Operation of Pedestrian Facilities
 - Federal Highway Administration's Manual on Uniform Traffic Control Devices for Streets and Highways
 - ITE's Recommended Practice Designing Walkable Urban Thoroughfares: A Context Sensitive Approach Recommended Practice
 - Draft Proposed Rights-of-Way Accessibility Guidelines (PROWAG)
 - MnDOT Bikeway Facility Design Manual
- Provide appropriate bicycle accommodation on or along all arterial and collector streets
- Use colored and/or textured crosswalks in high-count pedestrian areas
- Use pedestrian-scale design adjacent to sidewalks and other pedestrian facilities (e.g. pedestrian scale lighting, application of buffers between roadways and sidewalks or shared use paths, application of street furniture etc.)
- Evaluate the use of traffic calming features along all roadway corridors
- Provide pedestrian accommodation in the form of sidewalks or shared-use paths (if design guidelines are met) adjacent to all arterial and collector streets
- Consider using colored pavement or colored pavement markings for bicycle lanes
- Where physical conditions will allow, consider planting trees along newly constructed or reconstructed roadways in residential neighborhoods
- Retrofit sidewalks and curbs with ADA compliant pedestrian ramps as expeditiously as possible so that all pedestrians are served at maximum levels of service

3.3 CONSTRUCTION

- Provide alternate routes for bicyclists and pedestrians during construction, reconstruction and repair of streets

3.4 OPERATIONS

- Time traffic signals to provide adequate pedestrian crossing time. Consider exclusive pedestrian timing or leading pedestrian intervals where pedestrian crossing volumes are high enough.
- Develop a traffic calming policy; or review existing policies or ordinances to ensure that consideration is given to various traffic calming techniques
- Develop a maintenance schedule or program to address roadway, sidewalk and shared use path maintenance needs

- 
- Regularly inspect and fix pavement and/or surface defects before they become issues for pedestrians and bicyclists
 - Develop a schedule of regular pavement marking maintenance for on-road bicycle facilities
 - Develop a sweeping program that is sensitive to the needs of on-road and off-road bicyclists

3.5 EXCEPTIONS

Not every street can be ideal for every traveler. However, it is still important to provide basic, safe and direct access for users regardless of the design strategy used.

Exceptions should be made where:

- Non-motorized use is prohibited by law, such as on some sections of Interstate highways
- A suitable or more desirable alternative is available within a reasonable distance based on public and staff input. (General acceptable total out of the way distances: pedestrians ¼ mile; bicyclists ½ mile)
- The cost of accommodation would be excessively disproportionate to the need or probable use. (Note: Excessively disproportionate is sometimes defined as exceeding twenty percent of the cost of the larger transportation project. In this case, the project sponsor may propose an alternate design or spend twenty percent of the project cost of the larger project to improve accommodations for all users)
- There is a documented absence of current or future need. Documentation should be in a standalone document and easy to access by the public
- There is public consensus that the accommodation is unwanted. Evidence of this should be well documented and defensible

STREET DESIGN CONSIDERATIONS

Designing a functional, multimodal street that enhances quality of life is no easy task. Space (and funding) is limited, and streets are often not wide enough to accommodate driving lanes, bicycle lanes, wide sidewalks, on-street parking, bus stops, street trees, and all the other elements the community would like to see.

Therefore, we must think critically about the role the streets play within their neighborhoods and the city as a whole to develop thoughtful corridor design. This often involves tradeoffs and major considerations: Not all streets can have bike lanes, so where are they most important? How will we plow and maintain this street? How do we balance the needs of truck traffic with those who live and travel in the neighborhood?

The considerations below outline the thoughtful process that was applied to the Street Design Guidelines in this chapter.

LAND USE INTEGRATION

Land Use Integration (often called context-sensitive design) refers to the process designing streets differently based on their context. A collector street that serves a retail area should look different from a collector street in a residential neighborhood. The Design Guidelines developed as part of this plan consider the surrounding land use as the top consideration for street design, ensuring that the ultimate design is in line with surrounding neighborhood's needs.



An example of a street design that creates a highly walkable and multimodal environment near Roosevelt Elementary. Source: Google Street View

MULTIMODAL ACCESSIBILITY

Consistently, the Fargo community has asked for more space dedicated to safe walking and cycling. There are many ways to accommodate this need, including on-street bike lanes, shared use paths, better crossings, and wide sidewalks. Each can be appropriate depending on how much space is available and how much vehicle traffic is present. Each example street in the Guidelines include some form of safe accommodation as appropriate for the context.

OPERATIONS AND MAINTENANCE

Designing a beautiful street is one thing, but the City is also responsible for maintaining it. Street sweeping and snow removal are regular occurrences, and all streets must be designed to accommodate maintenance vehicles, as well as to include space for snow storage. Therefore, all streets in the Guidelines include eight-foot buffers between the street and the sidewalk for adequate snow storage. Bike facilities are either on-street with no permanent barriers obstructing maintenance or elevated at sidewalk level with adequate spacing for snow clearance.

FUTURE GROWTH AND EXISTING NETWORK

The Design Guidelines in this chapter are most useful for new streets, when a blank slate allows for the design to take shape exactly as shown. On existing streets, the concept is more complicated. Not all existing streets may be able to reflect the vision shown in these guidelines because of real-life conditions. However, these guidelines may still be useful when considering options for reconstructions or road diets.



An example of a much less walkable environment on University Drive. Source: Google Street View

MULTIMODAL TOOLBOX

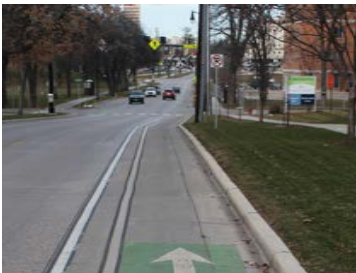
There are many design options and facility types to choose from when building safe streets for bicyclists and pedestrians. Not all are appropriate in every location, so it is critical to have a variety of options to select from in each individual circumstance. The following treatments are recommended for Fargo streets, with some guidance on when to apply each treatment.



Shared Street Example

SHARED STREETS

Shared Streets are low-traffic local streets that may not have any separate bicycle facilities aside from signage. This treatment is appropriate on neighborhood streets where traffic volumes and speeds are low.



Buffered Bike Lane Example

STANDARD OR BUFFERED BIKE LANES

Standard bike lanes include striping on the street to delineate a separate space for bicycles. Lanes should be at least four feet wide and may be placed either next to the curb or to the left of on-street parking. Standard bike lanes are appropriate on low-speed and low-volume collector streets.

Additional painted buffers of at least two feet may be considered on higher-volume or speed streets to provide additional separation. For all painted lanes, green “skip marks” should be considered through intersections to aid in visibility and awareness.



Sidewalk Example

SIDEWALKS

Sidewalks are pedestrian-only facilities for walking along a roadway. Sidewalks should be a minimum of 4.5 feet wide and should be separated from traffic by at least a six-foot-wide boulevard. A six-foot-wide boulevard is more conducive to grass being sustained as well as being an adequate width for snow storage.



Shared Use Path Example

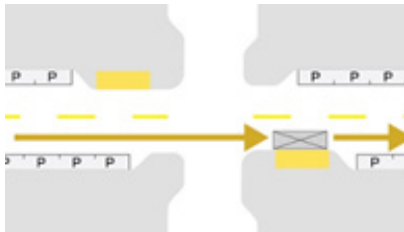
SHARED USE PATH

Shared use paths are wide pathways (typically at least 10 feet) that are intended for both pedestrians and bicyclists. The pathways typically follow a roadway, but are separated by traffic by a buffer that makes for the most comfortable and safe option. Shared use paths should be considered along higher-speed and volume streets.

TRANSIT-SUPPORTIVE DESIGN

The Fargo-Moorhead Transit Development Plan, developed in 2021, describes a vision for increased service frequency and quality over the next several years. The plan recognizes the importance of high-quality transit service to serve a growing metropolitan area and designates several routes for increased service frequency to serve major destinations. Several routes are designated as high-frequency corridors in the plan, such as Route 2 (MSU Moorhead to Downtown Fargo), Route 11 (Broadway), Route 13 (NDSU to Downtown Fargo), and Route 15 (Sanford Fargo via West Acres), and several routes on the NDSU campus.

Street design along high-frequency corridors must consider transit operations. Several simple design modifications may be made that allow for transit to operate more safely, efficiently, and minimize disruptions. This plan does not recommend specific locations or design elements, which depend on context. All street projects along the designated priority transit routes should be reviewed to consider possible design elements from the palette below. Additional information on each of the elements below can be found in the NACTO Transit Street Design Guide.



Far Side Stop Placement

FAR-SIDE STOP PLACEMENT

Far-side stops move transit stops past the intersection, instead of just before the intersection. This stop configuration has been proven to incrementally increase travel speeds especially at intersections with high turning volumes, as well as allowing for a safer pedestrian environment by allowing people to cross behind the bus.



In-Line Stops

IN-LINE STOPS

In-line stops use curb extensions that align the transit stop with the parking lane, allowing buses to move in a straight line. In-lane stops eliminate both pull-out time and traffic re-entry time, a source of delay and unreliable service. In-lane stops are especially valuable on streets operating at or near vehicle capacity, or on streets with long signal cycles, in which transit vehicles may experience long re-entry delays while waiting for traffic to clear.



Floating Bus Stop

FLOATING BUS STOPS

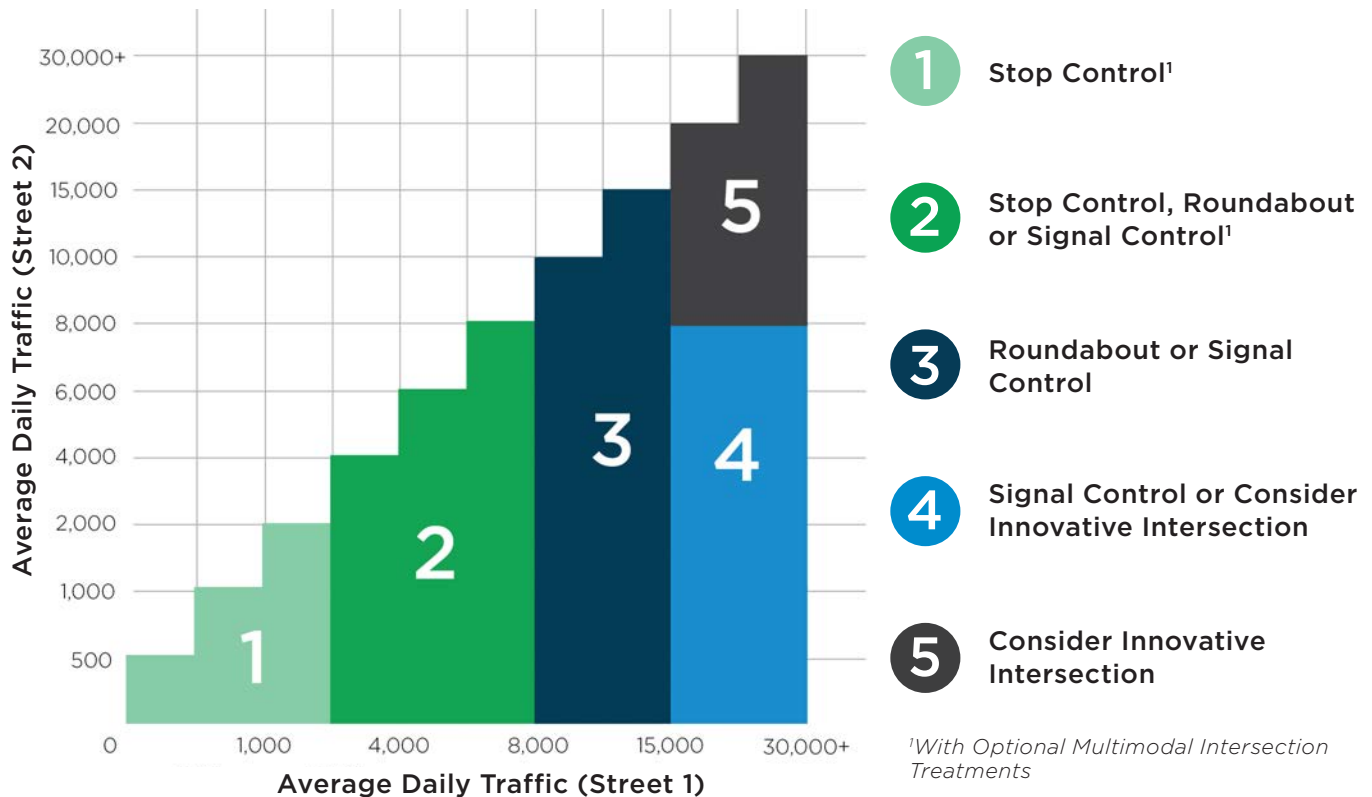
Floating bus stops have a bike lane or separated bikeway wrapping around the transit boarding area. This allows the bus to stop without coming into conflict with bicyclists. Bicyclists must yield to pedestrians crossing to the boarding area. The bike lane is typically raised to accommodate an ADA-accessible pedestrian crossing.

INTERSECTION TOOLBOX

Intersections can have as large an influence on the overall travel experience as street design. When intersections are too large or poorly designed, they can be unsafe for bicyclists and pedestrians, as well as inefficient for drivers. The appropriate design based on the approaching streets can improve the safety and comfort for all.

There are many different treatments that may be used to control traffic and improve safety at intersections. Some treatments are appropriate in some locations and not others depending on street type and the main challenges at that location. A decision guide (Figure 23) builds a framework for when to consider each of the several intersection treatments explained on the following pages. Some intersection treatments are appropriate in some locations and not others depending on street type and the main challenges at that location. This decision guide is intended as a general guideline, and treatments will depend on individual context.

Figure 23: Intersection Treatment Selection Matrix



Source: Adapted from NDDOT Traffic Operations Manual <https://www.dot.nd.gov/divisions/programming/docs/trafficops.pdf>

On the following pages, these intersection treatment options are explained in more detail.

INTERSECTION TYPES

The following four general types of intersections may be appropriate in different contexts depending on daily traffic, land use, and other factors. Intersections of all of these types may be appropriate for multimodal intersection treatments, explained on the following page.



Stop Control



Roundabout



Signal Control



Innovative Intersection

Stop Control

Stop controlled intersections are typically found on low-speed and volume streets where the volumes on intersecting streets are approximately equal. In low-volume situations, stop signs improve safety for pedestrians by ensuring slow traffic speeds.

Roundabout

Roundabouts are one of the safest intersection types that work to significantly reduce crashes and congestion. Roundabouts may also be designed with multimodal elements to make crossing easier and improve visibility. Roundabouts should be highly considered especially in new construction where space allows (Current intersections may be space-constrained).

Signal Control

Traffic signals may be necessary when traffic volumes or speeds reach a certain threshold, or on higher-order streets. Signals also provide key opportunities for pedestrians and cyclists to cross safely, and may be programmed to maximize user safety.

Innovative Intersection

New types of intersections are being developed that maximize safety for all road users while facilitating a road's purpose in the overall transportation network. These might include reduced-conflict interchanges such as Diverging Diamond or Restricted Crossing U-TURN (R-CUT) interchanges (see Chapter 5 for more details). Other innovative options to reduce intersection conflicts include displaced left-turns or median U-turns.



Curb Bump Outs



Bike Lane Markings



HAWK Signal



Bike Box



Raised Crossing

Multimodal Intersection Treatments

Multimodal intersections are not a single intersection design, but rather a toolkit of multimodal treatments that may be used to improve safety for cyclists and pedestrians, ranging from low-cost to major investments. These treatments may be provided in addition to standard multimodal treatments, such as marked crosswalks and pedestrian traffic signals.

CURB BUMP OUTS

Curb bump outs extend pedestrian space into the roadway to shorten crossing distance, reduce turning radii, and slow vehicle traffic.

BIKE LANE MARKINGS

At all intersections where bike lanes are present, green markings should be included to improve visibility of the bike lane, as well as awareness that bicyclists may be present.

HAWK SIGNALS

HAWK signals provide a button for pedestrians to active a traffic signal that stops traffic. They are especially useful at mid-block pedestrian or trail crossings.

BIKE BOXES

Bike boxes provide a safe place for bicyclists to wait while turning left at signalized intersections. They allow bicyclists a safe and visible way to get ahead of queuing traffic when the signal is red. They may be used where bike facilities are present and a left turn is possible.

RAISED CROSSINGS

Raised crossings extend the crosswalk across the intersection at the same level as the sidewalk. This improves visibility and ADA accessibility for pedestrians, while slowing traffic.

REDUCED TURNING RADII

Reduced turning radii requires vehicle to slow down prior to making the turn rather than speeding through an intersection, increasing visibility and safety for pedestrians

STREET DESIGN GUIDELINES

Street design responds to the needs and context of the surrounding neighborhood. This means that an arterial serving a major regional shopping center must not look the same as a collector street serving a residential neighborhood because those areas have different needs and serve different transportation users.

To effectively design a street that provides for the needs of all transportation users, a 5-step decision-making process will be followed:

Step 1 – Development Context

Determine the desired or future development context. Street design must be responsive to the needs of the neighborhood, so understanding the long-term land use and design of the area is critical.

Step 2 – Prioritized Roadway Users

Determine the street’s role in the larger network. Arterials, collector and neighborhood streets have different purposes and must look and function differently.

Step 3 – Street Type

The results of Steps 1 and 2 determine the street type from eight major categories, detailed on the next page.

Step 4 – Unique Characteristics

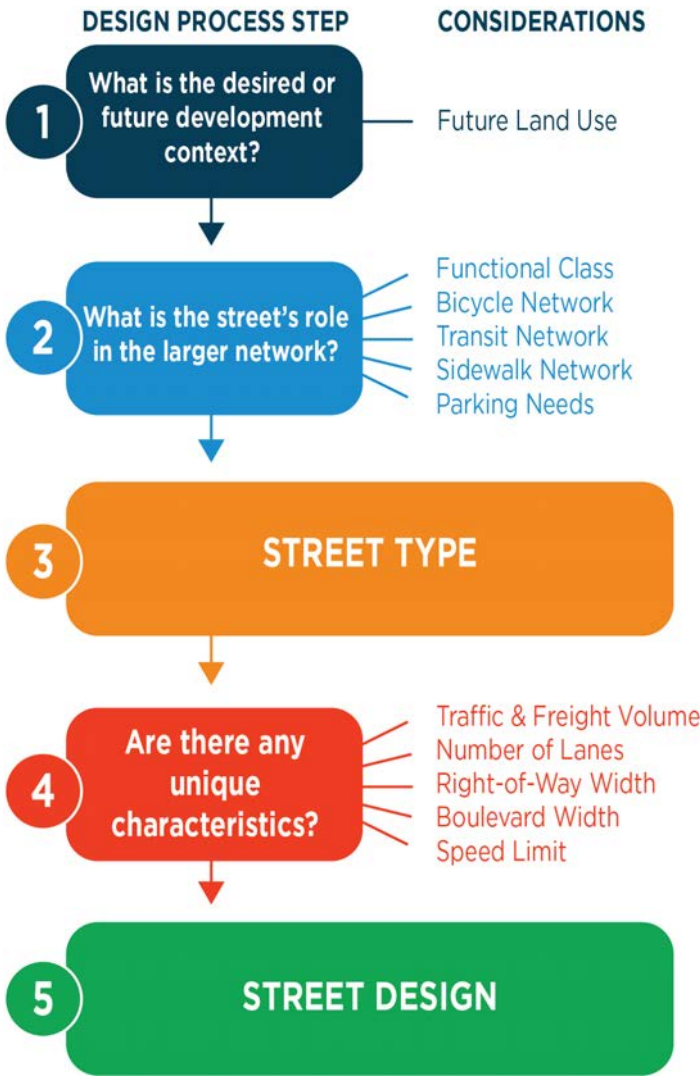
Determine if there are unique characteristics to take into account. Is it a one-way street? What is the projected traffic volume? Will there be a lot of truck activity? What is the right-of-way width? How fast will vehicles be traveling on this street? All of these may influence the specific street design.

Step 5 – Street Design

The street design is customized based on applying any unique characteristics to the general street type guidance.

The street types described in this guide, originally developed in the 2018 Parking & Access Study, are intended mainly to be used as a framework to help guide the design of new streets as development occurs. Where possible, the guidelines should also be referred to when planning street reconstructions and major projects on existing streets to identify improvements that would bring the current street closer to the multimodal vision of this plan.

Figure 24 City Street Design Process



STREET TYPES

The eight major street types are listed below and existing and planned streets are mapped in Figure 25. The table on pages 72-73 shows additional details about each street type. As development occurs and new streets are created, the map will be amended and updated to include new streets.

COMMERCIAL/INDUSTRIAL LOCAL STREET

These streets are low volume, low speed streets that primarily serve commercial and/or industrial areas. These areas typically contain commercial uses like shopping strip centers, or industrial uses like warehouses, shipping facilities, and manufacturing. Streets are typically designed to meet the needs of the freight traffic that use these streets. These streets are designed to move and store vehicles, while also being safe for pedestrians and cyclists where destinations exist.

Transportation Characteristics

- Grid-based or curvilinear street pattern
- Prioritize access to freight route

RESIDENTIAL NEIGHBORHOOD STREET

These streets are low volume, low speed streets that connect residential properties to nearby destinations. These areas typically contain a range of housing types, from single family to apartment buildings, and may also contain neighborhood scale businesses, such as restaurants, small retail, offices, churches, and schools. Safety is the concern on these streets, with low traffic speeds/volumes being the goal in order to minimize the risk of crashes and maintain the safety of those walking, biking, and living along these streets.

This street is the most common street type designation throughout the city. Minimal multimodal accommodations are needed due to prevailing low traffic speeds and volumes. Where necessary, additional traffic calming treatments such as curb bump-outs or raised crosswalks may be used.

Transportation Characteristics

- Grid-based or curvilinear street pattern
- Predominately short trips

MIXED USE NEIGHBORHOOD STREET

These streets are typically located within larger mixed-use developments, and provide connections to collectors and arterials. These streets focus on providing direct, multimodal access to a range of land uses, including mid- to high-density residential, retail, office, and entertainment destinations. The built form on these streets includes little to no setback from the street to prioritize a lively, walkable environment. Multi-modal accessibility and safety are key priorities on these streets, with facilities to accommodate the transportation needs of all users.

Transportation Characteristics

- › Wide sidewalks
- › Multimodal access connects the area to the surrounding neighborhoods
- › Typically mix of on and off street parking

Special Considerations

- › Curb bump-outs at intersections may provide additional traffic calming opportunities and prioritize pedestrian safety.
- › On street parking is parallel or sometimes diagonal, based on land context and density

RESIDENTIAL COLLECTOR

These streets are those designed to connect residential areas with community destinations, such as schools, parks, libraries, and churches. These streets carry more traffic than residential neighborhood streets, but still focus on slower speeds and a high level of multimodal access. Safety is the main priority for all those walking, biking, and driving. These streets provide primary access to many neighborhood destinations. Most trips along these streets are greater than one mile.

Multimodal traffic is accommodated through a separated shared use path on one side of the roadway, with standard sidewalk on the other side. Safe intersection design is standard, with additional signage and accommodations considered near schools, parks, and other destinations.

Transportation Characteristics

- › Grid-based or curvilinear street pattern
- › Higher traffic volumes than neighborhood streets
- › Most trips are 1+ miles
- › High emphasis on shared use paths

Special Considerations

- › RRFBs, bump-outs and other intersection safety features are prioritized in high-pedestrian areas, particularly at mid-block crossings.

MIXED USE/COMMERCIAL COLLECTOR

These streets provide direct access to a range of land uses, including mid- to high-density residential, retail, office, and entertainment destinations. These streets place a high emphasis on multi-modal access to the surrounding neighborhood. These streets provide critical pedestrian and bicycle connections, as separated pathways are provided on at least one side of the street.

Transportation Characteristics

- › Shared Use Path along at least one side of street

Special Considerations

- › Driveways are consolidated where possible to improve safety for all modes.

MIXED USE ARTERIAL

These streets act as cross-town links and business corridors where people live, shop, dine and work to support economic activity. They provide a range of high-density land uses, multi-family residential, retail, office, and entertainment destinations. These streets are typically high traffic streets with higher travel speeds, and may include major anchor developments, such as hospitals or corporate campuses. All streets place a high emphasis on roadway and multimodal access to the surrounding neighborhood, as well as facilitating mobility to the final destinations.

This roadway can provide critical pedestrian and bicycle connections to serve the needs of business and employers along these routes. Though these are part of the arterial network, they would be expected to serve a slightly lower volume and speed of traffic than commercial arterials, due to the multimodal nature.

Transportation Characteristics

- › Typically major arterials and higher volume streets
- › Attract substantial vehicle trips, including as major commuter destinations
- › Multimodal access connects the area to the surrounding neighborhoods

Special Considerations

- › Some Mixed Use Arterial Streets may merit bicycle facilities on both sides

COMMERCIAL ARTERIAL

These streets act as gateways, connecting people from Fargo and the wider region to the area's major Destinations. They provide access to commercial and industrial uses. These streets carry relatively high traffic volumes at higher speeds and many provide direct access to the interstates. Lots are typically larger and include significant off-street parking accommodations. While these areas are typically auto-oriented, providing appropriate multimodal access is important due to the high density of employment and destinations.

These streets prioritize safe modal separation, particularly due to high truck traffic volumes and high travel speeds. Bicycle and Pedestrian access is facilitated by a separated path. Multimodal access is important in these areas to facilitate employees commuting to and from work, as well as people accessing destinations.

Transportation Characteristics

- › Multimodal access provided by separated paths
- › Higher travel speeds and high traffic volumes
- › Most trips are made by vehicle
- › Typically high volumes of off-street parking
- › Access management
- › A 10-foot-wide shared use path on one side and a six-foot-wide sidewalk on the other side.

Special Considerations

- › Driveways removed or consolidated where possible to minimize turning conflicts
- › Landscaped medians may provide traffic separation with space provided for dedicated turn lanes at intersections
- › On-street parking is not provided

REGIONAL ARTERIAL

This type of street acts as a secondary alternative and direct connection to the Interstate system, serving large traffic volumes with highly controlled/limited interruptions. This type of street does not currently exist in Fargo, but may be planned in the future.

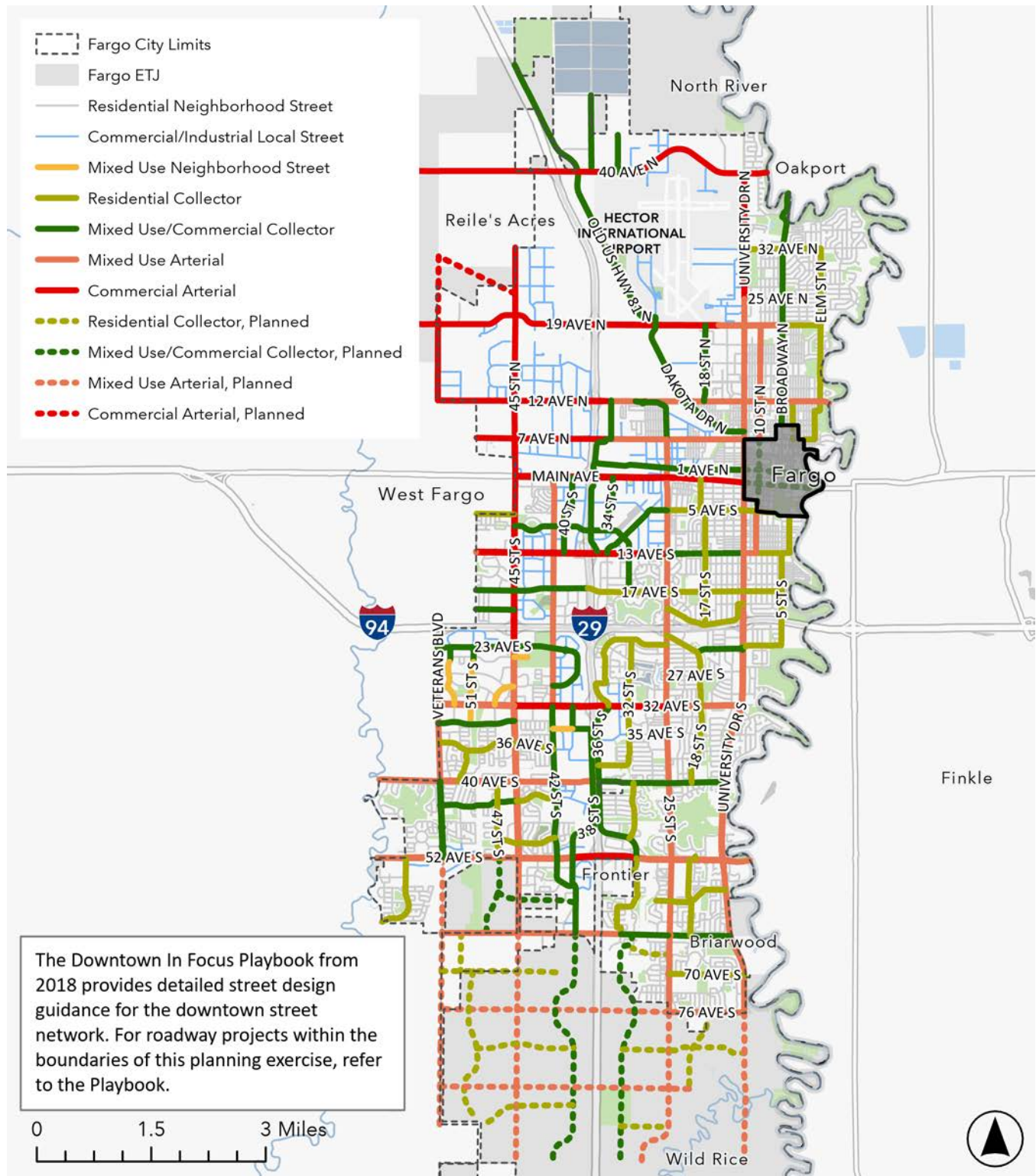
Design guidelines are not provided for this street type because it is anticipated the design will be developed through a comprehensive study and design process.

Table 6: Street Type Classification Details

Street Type	Lane Number	Speed Limit	Right-of-Way Width	Street Width	Block Length	Bicycle Facilities
Commercial/ Industrial Local Street	2	25 mph	80'	40'	300'-1320'	consider 8' shared use path on one side
Residential Neighborhood Street	2	25 mph	62'-80'	28'-40'	300'-1320'	none
Mixed Use Neighborhood Street	2 or 3	25 mph	80'	36'-40'	300'-1320'	8' or 10' shared use path on at least one side
Residential Collector	2 or 3	25 mph	80'	30'-40'	300'-1320'	10' shared use path on one side
Mixed Use/ Commercial Collector	2 or 3	25-30 mph	80'-100'; up to 120' at arterial intersections	36'-40'	300'-1320'	10' shared use path on one side
Mixed Use Arterial	3 to 6	30-40 mph	200'	varies	660'-1320'	10' shared use path on one side
Commercial Arterial	3 to 6	30-40 mph	200'	varies	660'-1320'	10' shared use path on one side

	<i>Pedestrian Facilities</i>	<i>Parking</i>	<i>Design Characteristics</i>	<i>Access Management Priorities</i>	<i>Intersection Design</i>	<i>Additional Considerations (to add)</i>
	4.5' sidewalks both sides	both sides	n/a	full access	n/a	
	4.5' sidewalks both sides	one or both sides	n/a	full access	n/a	
	4.5' sidewalks one side	both sides	n/a	full access	curb bumpouts encouraged when conditions merit	diagonal parking could be allowed with wider right-of-way
	4.5' sidewalk one side	one side, both sides, or none	n/a	full access or consolidated driveways on high volume roads	roundabouts may be considered at some intersections	
	4.5' sidewalk one side	none or one side	wider right-of-way for dedicated turn lanes at intersections where necessary	consolidate driveways where possible to minimize turning conflicts; medians restrict left turns in strategic areas	roundabouts may be considered at some intersections	2 lanes with parking on one side; 3-lane roads will have no parking
	6' sidewalk one side	none	center median or center turn lanes at intersections where necessary	consolidate driveways where possible to minimize turning conflicts; medians restrict left turns in strategic areas	roundabouts may be considered at some intersections	
	6' sidewalk one side	none	center median provided on higher volume streets	driveway and street access allowed about every 1/8 mile (660')	signals provided with optimized 1/4 mile spacing; 3/4 access at 1/8 mile (660')	

Figure 25: Street Types Map





ADDITIONAL CONSIDERATIONS

When making design decisions for a particular street, we must evaluate the street's current or planned operating characteristics to determine an appropriate design. Since the street categories have been generalized into broad street types, it is anticipated that not all roadways will fit cleanly into one category, and that not all design guidance will be appropriate for each street. Additional mode separation or additional design characteristics may be needed on higher speed and higher volume roadways compared to low volume streets. As traffic speeds and volumes increase, buffered or protected bike lanes may be desired, or even separated shared use paths to provide optimal safety. Bicycle treatments should, where possible, align with the design options developed in Metro COG's 2022 Metropolitan Bicycle and Pedestrian Plan.

TRAFFIC DIRECTION

An additional consideration in the core neighborhoods area is one-way versus two-way streets. Metro COG, the City of Fargo, and NDDOT are studying the University Drive and 10th Street one-way pair, from 19th Avenue N to 13th Avenue S, to identify opportunities to enhance neighborhood livability and economic conditions along these two corridors. The design guidelines shown in this plan will need to be customized for one-way operations.

PRIORITY TRANSIT ROUTE

Some arterial streets in Fargo are designated as priority bus routes, where MATBUS provides current high-volume service with an intent to increase service quality and frequency. These streets require additional consideration in street design to ensure that bus operations do not create safety conflicts with bicyclists and pedestrians.

Arterial street designs shown here take that need into consideration, and designs are shown to minimize conflict, such as floating bus stops. In some cases, this may mean that bicycle accommodations are removed from those streets and relocated to adjacent streets where riding is safer and more comfortable.

DRIVEWAY ACCESS AND SPACING

Establishing guidelines for access spacing near block corners will help to improve the safety and efficiency of Fargo's street network by providing adequate spacing between intersections and driveways. These guidelines help to maximize roadway capacity, reduce crashes, and minimize vehicle travel time. All streets provide two primary functions, allowing mobility between locations and access to property.

Arterial streets are primarily intended to move large volumes of traffic over longer distances in shorter amounts of time, whereas local streets are intended to provide adequate and convenient access to adjacent properties. Collector roads serve the intermediate role of transitioning traffic between arterial and local streets, providing a limited degree of both access and mobility. Because arterial streets are designed for mobility at the expense of access, vehicles approaching an arterial street from a perpendicular street will often begin to queue while waiting for an opportunity to cross or turn onto the arterial. In these situations, especially when roads are congested, the queue of vehicles can extend back to a point which blocks other driveways or intersections, preventing other vehicles from entering the street.

The purpose of the guidelines in Tables 7 and 8 is to improve public safety and reduce congestion on the City's road network by providing adequate spacing between driveways and intersections. As Fargo grows, the issues associated with inadequate access management will increase. These guidelines help roads to serve their appropriate roles in the overall system safely and effectively.

Special Considerations

- The guidelines in this section do not apply to Downtown between the Red River, University Drive, 5th Avenue S to 7th Avenue N.
- In upcoming land use planning processes, mixed use nodes may be identified at several locations. In these areas, access may be permitted at closer distances to serve a denser, dynamic surrounding land use. These guidelines should be considered flexible and context-dependent.

Figure 26: Driveway Access and Spacing for Local and Collector Streets

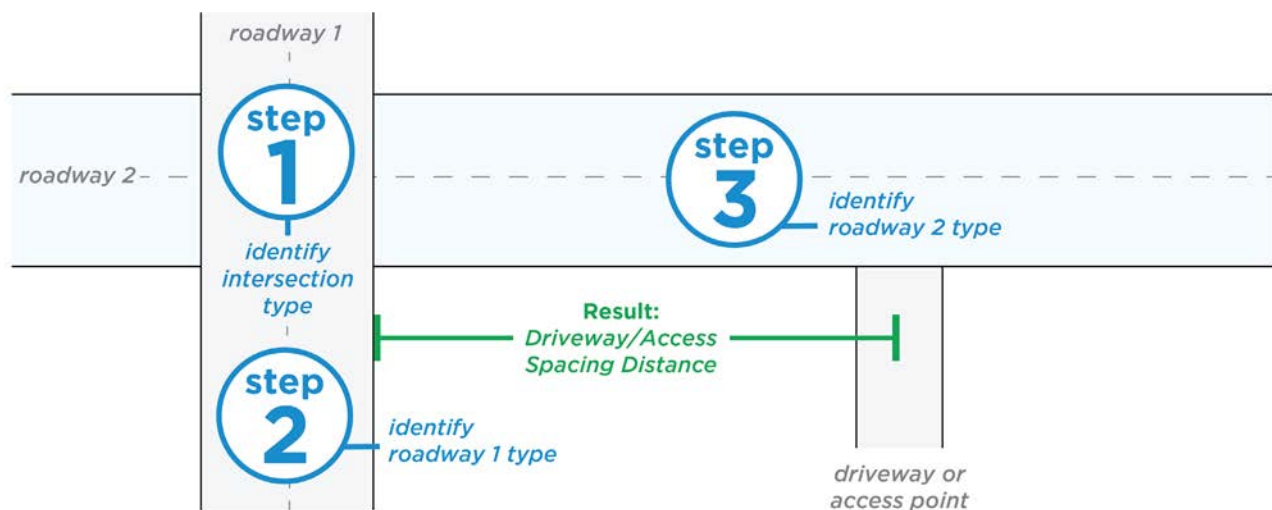


Table 7: Driveway Access and Spacing for Local and Collector Streets

step 1 Intersection Type	step 2 Roadway 1	step 3 Roadway 2					
		Private Connections		Local Streets		Collector Streets	
		2-Ln Single-Family	2-Ln Multifamily/Comm./Ind.	2-Ln Residential Neighborhood Local	2-Ln Commercial/Industrial Local	2-Ln Neighborhood Collector	2-Ln Mixed Use/Commercial Collector
Full Access Intersections	Residential Neighborhood	30'	75'	30'	75'	100'	150'
	Commercial/Industrial Local	50'	100'	30'	100'	100'	150'
	Neighborhood Collector	50'	100'	100'	125'	75'	200'
	Mixed Use/Commercial Collector	75'	125'	100'	125'	150'	250'

Table 8: Driveway Access and Spacing for Arterial Streets

		step 3 Roadway 2										
step 1 Intersection Type	step 2 Roadway 1	Private Connections		Local Streets		Collector Streets				Arterial Streets		
		2-Ln Single-Family/ Multifamily/Industrial	2-Ln Commercial	2-Ln Single-Family/ Multifamily/Industrial	2-Ln Commercial	2-Ln Neighborhood Collector	2-Ln Mixed Use/ Commercial Collector	3-Ln Mixed-Use/ Commercial Collector	4-Ln Mixed Use/ Commercial Collector	2 or 3-Ln w/ No Median	5-Ln w/ No Median	4 or 6-Ln w/ Median
Full Access Intersection with No Signal Control*	4/6-Ln w/ Median	100'	150'	100'	150'	115'	270'	300'	300'	600'	600'	600'
	5-Ln w/o Median	100'	150'	100'	150'	115'	270'	270'	270'	350'	600'	600'
	2/3-Ln w/o Median	75'	100'	75'	100'	115'	170'	170'	270'	300'	350'	600'
Full Access Intersection w/ Signals*	4/6-Ln w/ Median	275'	275'	275'	275'	275'	350'	350'	600'	600'	600'	600'
	5-Ln w/o Median	275'	275'	275'	275'	275'	350'	350'	600'	350'	600'	600'
	2/3-Ln w/o Median	275'	275'	275'	275'	275'	350'	350'	350'	300'	350'	600'
Right-In/ Right-Out Intersections	4/6-Ln w/ Median	75'	100'	75'	100'	75'	150'	150'	250'			
	5-Ln w/o Median	75'	100'	75'	100'	75'	150'	150'	250'			
Roundabouts	2/3-Ln w/o Median			100'	120'	100'	120'	170'	170'	300'		

*Present or planned

4: CONNECTIVITY

One of the goals of the Fargo Transportation Plan is to improve the connectivity of the transportation system. This means promoting a connected street grid to enhance walkability and neighborhood design. All transportation modes deserve a connected, efficient network, including bicyclists, pedestrians, and vehicular users.

This chapter outlines short-term priorities of the following types:

- › Street Priority Projects
- › Shared Use Path Priority Projects
- › Safety/Miscellaneous Priority Projects

These priorities should be used to inform future project development and selection for funding.

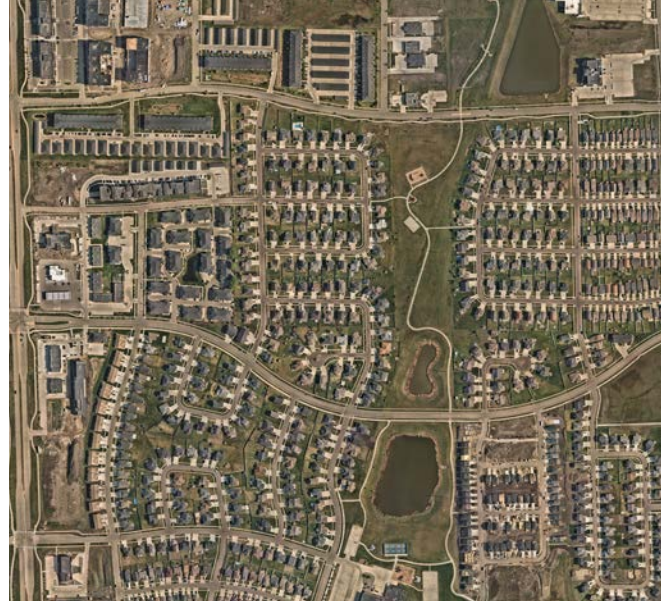


POLICY FRAMEWORK

This policy recommendation guides the City’s future approach to connectivity. Many of the projects contained in this section of the Fargo Transportation Plan reflect a goal to promote connectivity in the city’s transportation system.

Policy Spotlight: Develop a connectivity policy statement for new developments

Street connectivity refers to a network of streets that provides many routing options to get from one place to another. The image at right shows an example of a traditional street network pattern in Fargo, which provides a connected hierarchy of arterial, collector and residential streets, along with pedestrian pathways. The City of Fargo would like to promote increased street connectivity following this traditional pattern, but currently lacks a clear policy or enforcement mechanism. Adopting a formal connectivity policy and measures as part of the land use code rewrite and subdivision ordinance can allow Fargo a clear way to achieve the street connectivity goals stated in the City’s Transportation Plan.



Developing a connected street network provides several benefits. A connected grid network can alleviate and disperse traffic throughout the system, thus reducing travel time and delays, and improving resiliency when traffic incidents occur. It also creates additional benefits such as greater use of walking, biking, and public transit. Ultimately this can positively impact a wide range of community aspects such as property value, public health, and ecosystem conservation.

BEST PRACTICES AND GUIDELINES

Cities across the country have developed several different methods to measure and promote street connectivity. Three ways to measure connectivity within a specified development area are:

- ✓ **Connectivity Index:** The number of links (street lengths) divided by the number of nodes (intersections) within a given area.
- ✓ **Intersection Density:** The number of intersections per square mile.
- ✓ **Pedestrian Block Length:** The average distance between walkable streets or paths based on walkable facilities and crossings.

These measures can help with developing connectivity policies by requiring developers to achieve a certain connectivity index, set a maximum block length, or achieve a certain intersection density. Requirements may be context-sensitive, with different minimums in certain areas of the city based on the desired character of development.

PRIORITY PROJECTS

The following projects represent the City of Fargo's short- and medium-term project implementation priorities. Short-term is defined as 2023 to 2028, and medium-term is defined as 2028 or later. These projects represent a variety of funding statuses—some are already funded and some are priorities for future funding. Implementing these projects will help meet the goals of the Fargo Transportation Plan, including contributing to safety and access for all roadway users.

STREET PRIORITY PROJECTS

Table 9: Street Priority Projects

PROJECT NAME	STREET TYPE	PROJECT DESCRIPTION/EXTENT
SHORT-TERM PROJECTS		
32nd Ave S Reconstruction — 22nd St to University Dr	Arterial	This reconstruction project will replace aging infrastructure. The current roadway is a complete street and the street will remain a complete street after reconstruction.
Main Ave Reconstruction — University Dr to 25th St	Arterial	This project will replace very old and failing infrastructure. This project will add ADA-compliant sidewalks on both sides of roadway.
New Interchange — 64th Ave S & I-29	Arterial	An overpass was opened to traffic at the location in fall of 2022. As the City's growth continues to progress to the south, this project will facilitate orderly growth and will provide relief to traffic volumes at 52nd Ave S & I-29. This interchange will be designed using innovative strategies to ensure that it is safe, efficient, and cost-effective.
Interchange Reconstruction — 40th Ave N & I-29	Arterial	The existing interchange was constructed in the late 1960s as a rural design. With strong Commercial/Industrial/Airport growth in the area, the interchange needs to be reconstructed to an urban design. The proposed design includes three roundabouts.
1st Ave N Reconstruction — 3rd St to Roberts St	Collector	1st Ave N is one of the backbones of the Downtown street network. This street's infrastructure is old and failing. The current roadway is a complete street and the street will remain a complete street after reconstruction.
NP Avenue Reconstruction — 8th St to 2nd St	Collector	The Downtown In focus Plan designated this street as a pedestrian and bicycle friendly street. Consistent with that plan, this reconstructed street will be a complete street, and will have both a raised cycle track and a separated sidewalk on both sides of the street. The roadway will be narrowed to two driving lanes east of 5th St.


PROJECT NAME	STREET TYPE	PROJECT DESCRIPTION/EXTENT
17th Ave S Reconstruction — University Dr to 25th St	Collector	The existing street is in disrepair and needs full reconstruction. Once completed, the roadway will be a mix of a two lane and three lane sections, and will most likely include a road diet. A sidewalk will be installed on one side of the street and a 10-foot shared use path will be installed on the other.
MEDIUM-TERM PROJECTS		
12th Ave N Bridge Replacement over the Red River	Arterial	The existing bridge floods in the spring when the Red River goes over the 27-foot flood stage. The goal of reconstruction would be to raise the bridge over the future 100-year floodplain when the Fargo-Moorhead Area Diversion Project is completed in 2027.
1st Ave N Reconstruction — Roberts St to 10th St	Collector	1st Ave N is one of the backbones of the Downtown street network. This street's infrastructure is old and failing. The current roadway is a complete street and the street will remain a complete street after reconstruction.
17th Ave S Reconstruction — 38th St to 42nd St	Collector	The existing roadway is in disrepair and there is excess traffic delay at the intersection at 38th St. The proposed design includes a roundabout at the 38th St intersection, and keeps a sidewalk on one side of the street and a shared use path on the other.
17th Ave S Reconstruction — 25th St to 35th St	Collector	The current roadway is mostly a two-lane roadway and is in disrepair. The proposed future design includes two mini roundabouts at 32nd St and 34th St, as well as a new shared use path on the south side of the roadway.



SHARED USE PATH PRIORITY PROJECTS

Table 10: Shared Use Path Priority Projects

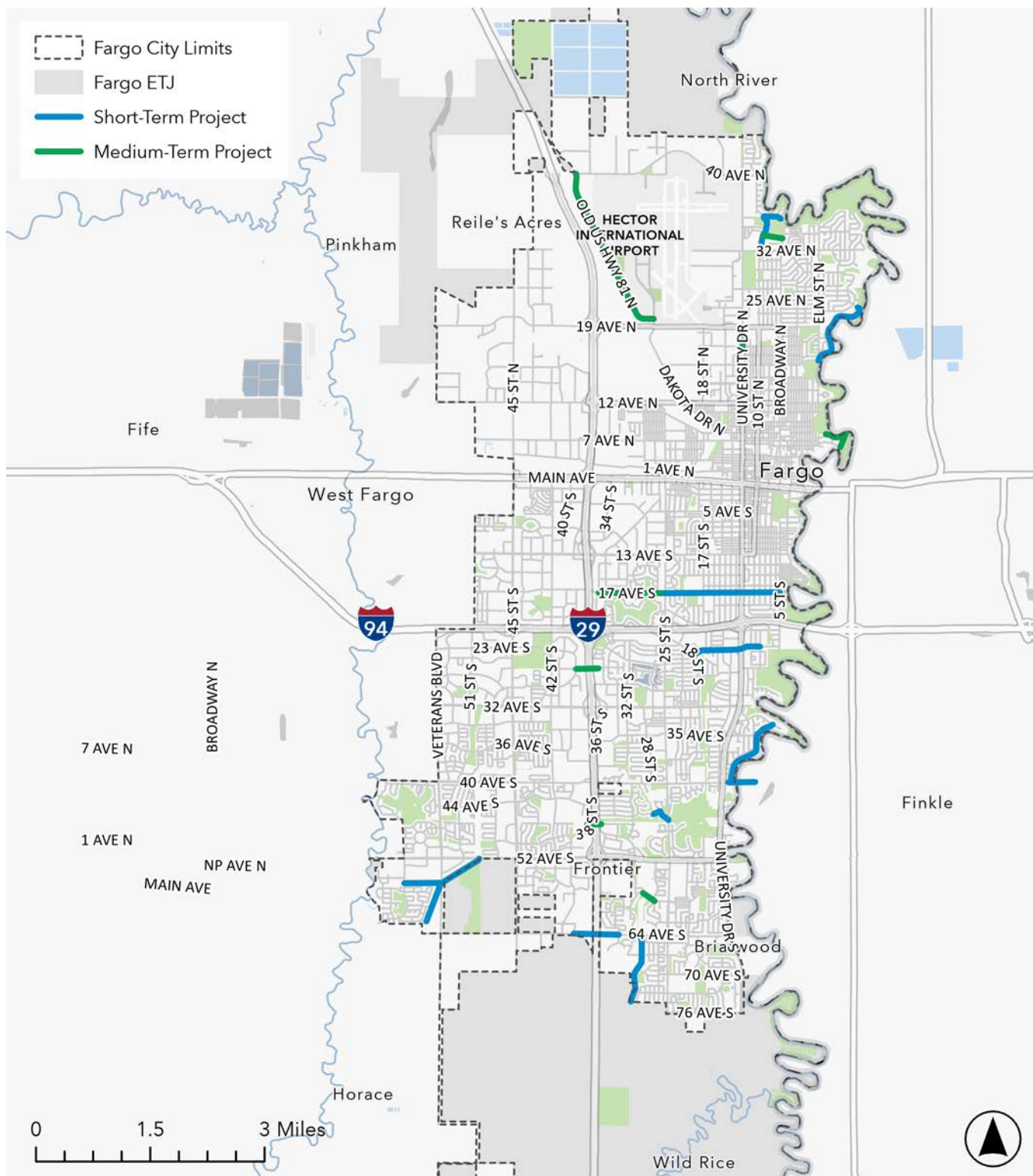
PROJECT NAME	PROJECT DESCRIPTION/EXTENT
SHORT-TERM PROJECTS	
Bison Village — 10th St Alignment	This project will fill in a gap in the shared use path network in north Fargo. In the long term, this path will replace the existing path along the river at Broadway, as that path is failing due to the geotechnical failure plane associated with being so close to the Red River.
Red River Trail — Hackberry Dr Location	Due to flood control projects which involved the City acquiring at-risk homes near the Red River, a new path will be constructed to add to an existing mile-long path running along the river.
Connecting the Trails in S Fargo — 64th Ave S & I-29	This project will connect two south Fargo shared use path systems together by the use of box culverts in the bottom of a legal drain, and a short path segment.
40th Ave S Pedestrian Bridge	This project will connect the Fargo shared use path system to Moorhead's path system and will create a new connection to the Bluestem Amphitheatre in south Moorhead.
Shared Use Path along Drain 27 into Deer Creek Addition	This path project will extend the robust path network along Drain 27 in south Fargo and will connect to a neighborhood that today is fairly disconnected from other parts of the City.
Shared Use Path along Drain 53 — 64th Ave S to 73rd Ave S	This project will extend the path system farther south along Drain 53 to connect to neighborhoods adjacent to Davies High School.
37th Ave N — Broadway to 10th St	This short segment will tie into the new Bison Village path and the path that runs along the Red River north of the Fargo Regional Water Reclamation Facility.
17th Ave S	A new 10-foot shared use path will be installed along 17th Ave S from 5th St to 32nd St as part of the planned street reconstruction projects on this important street in central Fargo.
Connecting Milwaukee Trail to 5th St — On 24th/25th Ave S	A shared use path connection will be added between the Milwaukee Trail on it's west end and 5th Street on its east end.
MEDIUM-TERM PROJECTS	
17th Ave S	A new 10-foot shared use path will be installed along 17th Ave S from 32nd St to 42nd St as part of the planned street reconstruction projects on this important street in central Fargo.
Shared Use Path along Red River — Behind Oak Grove High School	This project would connect to paths located both north and south of the high school. This project was highlighted as a missing link in the Red River Greenway study that was recently completed.
University Dr — 17th Ave N to 19th Ave N	This project will complete a missing link in the shared use path network.



PROJECT NAME	PROJECT DESCRIPTION/EXTENT
Pedestrian bridge over I-29 at 28th Ave S	This project would connect residential neighborhoods on both sides of I-29. It would help with east-west connections across I-29 in this area, as the next crossing to the north nearly a mile away at 17th Ave S.
Pedestrian bridge over I-29 at 47th Ave S	This project would connect residential neighborhoods on both sides of I-29 as well as the Microsoft campus on the west side of I-29.
Shared Use Path — Along South Side of Water Reclamation Plant	This project will tie into the Bison Village shared use path on the west side and Broadway to the east. In the long term, this will replace the existing path that is failing along the Red River just north of the Water Reclamation Facility.
Pedestrian Underpasses Under Section Line Roads South of 52nd Ave S*	One underpass per mile will be added in the undeveloped parts of the city, and as growth occurs, either these projects will be completed or right-of-way will be preserved for future construction.
Low Level Path Crossing — Drain 53 Near 58th Ave S	This project will connect two south Fargo shared use path systems together by the use of box culverts in the bottom of a legal drain, and a short path segment.
Paved Shoulders on Old Hwy 81 — Dakota Dr to 40th Ave N	This stretch of roadway is popular with on-street riding clubs and was identified in the Bicycle and Pedestrian Plan as a missing link in the bike network.

*NOTE: Systemic projects to be installed as multiple locations are not shown on the map.

Figure 28: Shared Use Path Priority Projects





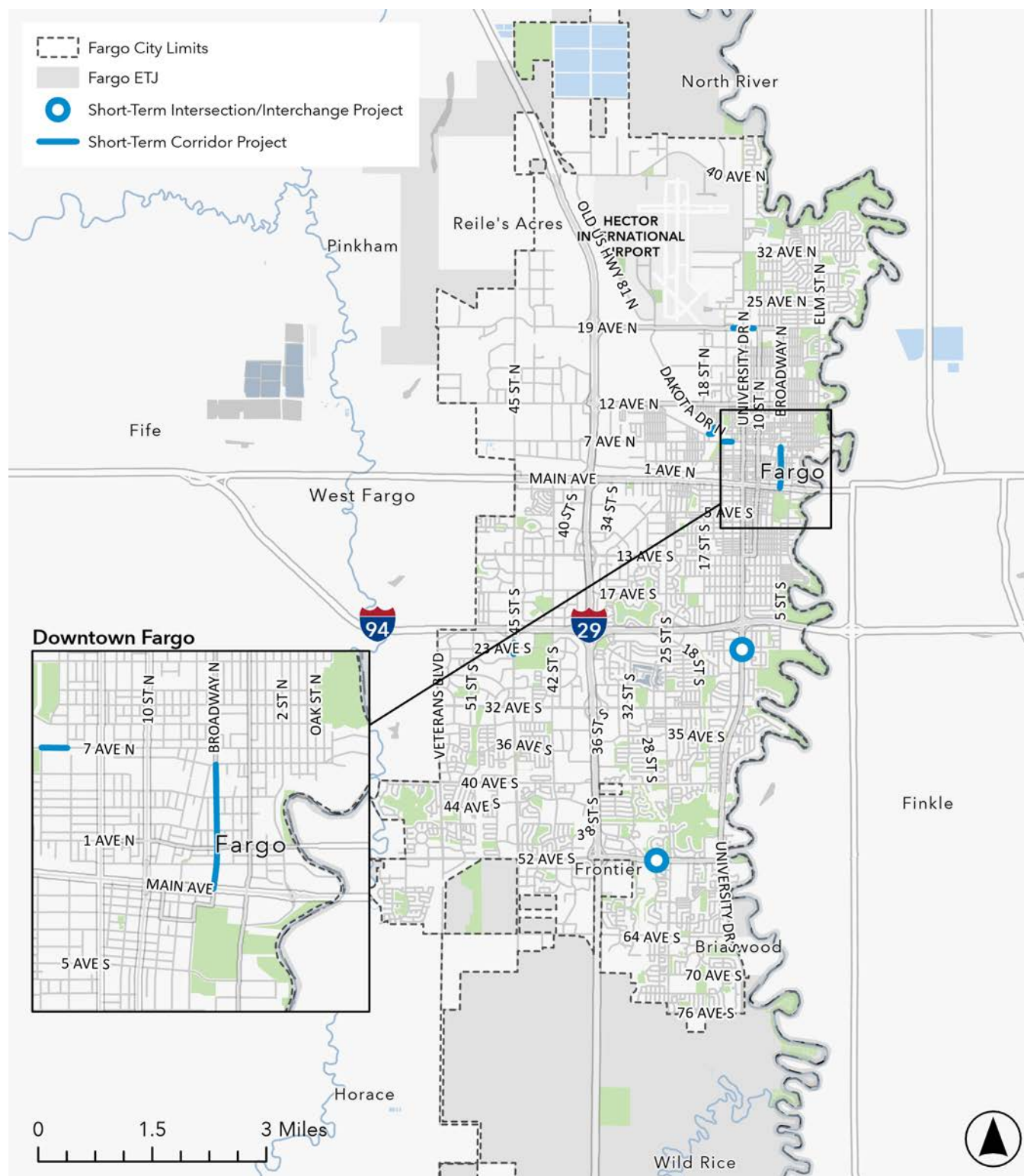
SAFETY/MISCELLANEOUS PRIORITY PROJECTS

Table 11: Safety/Miscellaneous Priority Projects

PROJECT NAME	PROJECT DESCRIPTION/EXTENT
SHORT-TERM PROJECTS	
Annual Citywide Pavement Markings*	This annual project will replace the tape markings used on concrete roadways every 10 years, and will replace the existing epoxy markings on asphalt roadways every three years.
Quiet Zone Project — 16th St and 7th Ave N on BNSF Prosper Railroad Lane	This project will upgrade the roadway and sidewalk crossings at these locations, which will allow the trains passing these street to not sound their horns in this mostly residential neighborhood.
Highway Safety Improvement Project (HSIP) — Removing Offset Left Turn Lanes — University Dr and 19th Ave N	This project will increase sight distance for vehicles making left turns on 19th Ave N.
HSIP — Removing Offset Left Turn Lanes — 45th St and 23rd Ave S	This project will increase sight distance for vehicles making left turns on 45th St.
HSIP — Intersection of University Dr and 25th Ave S	This project will enhance the sidewalk on the west side of University Dr and will set the intersection up for better shared use path crossing.
HSIP — Intersection of 52nd Ave S & 27th St	This project will improve safety at this intersection with the installation of a Reduced Conflict U-Turn Movement (RCUT). The design will be similar to what was installed along 52nd Ave S west of 45th St.
SRTS (local funding)*	This annual project will focus on replacing pavement markings, installing/maintaining flashing beacons for reduced speed limits in school zones, push button activated pedestrian crossing signals, and pedestrian median installations.
Replacing Brick intersections on Broadway and ADA upgrades — Broadway from Main Ave to 6th Ave N	This project will replace the bricks within the street at the intersection of 2nd Ave N, 4th Ave N, and 6th Ave N, as well as reconstruct and relocate a number of ADA ramps in this corridor.
Street Lighting Fixture Replacement Project*	Using Carbon Reduction Funds, the City of Fargo plans to replace approximately 1,000 high pressure sodium fixtures citywide that are located on collector or arterial roadways on highway type poles with LED fixtures.
MEDIUM-TERM PROJECTS	
Annual Citywide Pavement Markings*	
HSIP Projects — Locations TBD	
SRTS (local funding)*	

*NOTE: Systemic projects to be installed as multiple locations are not shown on the map.

Figure 29: Safety/Miscellaneous Priority Projects



5: INNOVATION & LIFE CYCLE SUSTAINABILITY

While infrastructure projects shape the physical design of the transportation system, the City's policies and practices are just as critical. Transportation policies refer to specific written guidance decision-makers can look to when making planning decisions. In some cases, these policies may be very clear and provide good guidance. In other cases, conflicting policies may create confusion or be outdated. Practices refer to the City's method of making decisions and implementing projects. These practices are not necessarily documented but can be critical to understanding how departments communicate and how projects make their way from idea to ribbon-cutting.



INNOVATIVE DESIGN

Transportation design is continually evolving as planners and engineers learn more about how to develop roadways and interchanges that are safer and more efficient. Today, roadway designs are much more diverse than they used to be, and there are many options to accommodate traffic of all modes in appropriate ways depending on the context. For major projects, the City of Fargo is committed to analyzing a variety of innovative designs to identify the most appropriate option for each scenario.

INTERSECTION AND INTERCHANGE DESIGN

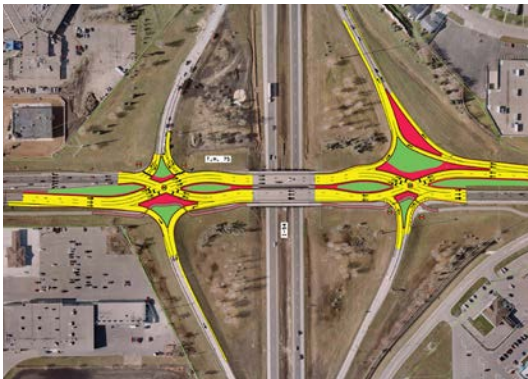
Many of these designs have already been incorporated throughout the region in various ways, while others are in use in other parts of the country and represent new ideas for Fargo. Possible innovative designs for intersections and interchanges include:



R-CUT Example

R-CUTs or J-Turns

The Restricted Crossing U-Turn (R-CUT) or J-Turn is an intersection design that improves safety and operations by changing how minor road traffic crosses or turns left at a major road. Drivers stopped at the minor road looking to turn left or continue straight must turn right followed by a U-turn at a designated location. R-CUTs are an FHWA Proven Safety Countermeasure that reduce dangerous left-turning crashes at major intersections. Fargo has installed R-CUTs in recent years, including at several locations along 52nd Ave S.



Diverging Diamond Example (Image Credit: Minnesota DOT)

Diverging Diamond Interchange

This innovative interchange, sometimes called a “double crossover diamond,” is designed to intuitively guide motorists through the pathways. These interchanges have been shown to increase capacity and safety, decrease congestion and minimize the cost of new infrastructure. Diverging Diamond Interchanges are appropriate for major access points, such as interchanges between surface arterials and interstates. They offer benefits of moving higher volumes of traffic while requiring narrower bridge widths because turn lanes are not needed, thus reducing bridge construction costs.



Roundabout Example

Roundabouts

A modern roundabout is a circular intersection where drivers travel counterclockwise around a center island. There are not traffic signals or stop signs in a modern roundabout. Drivers entering the roundabout yield to traffic already in the roundabout, then enter the circulating roadway and exit at their desired street. Roundabouts are an FHWA Proven Safety Countermeasure because they can substantially reduce crashes that result in serious injury or death. Roundabouts can be constructed in various configurations and sizes, but are largely appropriate on collector or minor arterial streets. Roundabouts can be used at interchange ramp intersections to eliminate the need for turn lanes on the bridge and thus reduce construction costs. Fargo has several roundabouts, including the one shown above at Main Ave.

The [Federal Highway Administration \(FHWA\)](#) provides guidance on additional innovative designs that may be considered, as well as information on the safety benefits and evaluation criteria for each design.

In recent decades, Fargo has implemented several innovative roadway design projects. The first roundabout in Fargo was installed in 2006—now, there are 10 R-CUTs are improving safety along the 52nd Ave S corridor. Fargo will continue to look for design ideas and best practices from across the nation that improve safety and operations while using resources wisely.

INNOVATION IN MULTIMODAL DESIGN

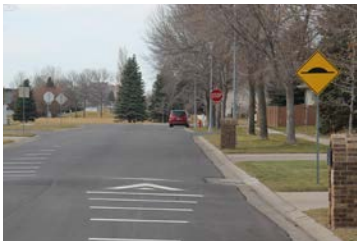
The City has installed bike lanes and embraced the concept of raised cycletracks in the Downtown area, and continues to explore opportunities to grade separate pedestrians and bicycles from vehicles, especially in growth areas. More types of innovative multimodal design include:



Complete Streets Example



Road Diet Example



Traffic Calming Example



Separated Facilities Example

Complete Streets

Complete Streets, as discussed earlier in this document, refer to streets that are designed to accommodate all modes of transportation that use the corridor, rather than just vehicles. Through this document, the City has adopted a new Complete Streets policy.

Road Diets

Road diets refer to the practice of re-purposing existing right-of-way and reducing vehicle lanes to accommodate multimodal traffic. The classic example is turning a 4-lane road into a 3-lane roadway, and using the additional space to add bike lanes. Road diets tend to reduce traffic speeds, improve safety, and can even improve operations and reduce delay in many scenarios.

Traffic Calming

Traffic calming, also discussed earlier in this document, includes practices that reduce traffic speeds to improve safety on neighborhood streets. These may include vertical (speed humps or raised intersections) or horizontal treatments (curb extensions). The City has a traffic calming policy that governs where and how it applies these treatments.

Separated Facilities

Increasingly, cities around the country are moving away from traditional on-street bike lanes in favor of fully separated facilities, such as side paths, trails, and sidewalk-level pathways. These facilities are typically more expensive to construct and require additional maintenance responsibilities, so are not appropriate everywhere, but do provide enhanced safety and comfort for riders of all ages. The separated, elevated bike lanes along Northern Pacific Avenue (shown in the image at left) represent an innovative multimodal design in Fargo today.

EMBRACING INNOVATION

When employed appropriately, innovative designs can improve safety, increase efficiency, reduce delay, and provide better long-term cost effectiveness. However, not all designs are appropriate in all locations. Each intersection or interchange location is unique, so the use of innovative intersections and interchanges will depend on consideration of the following factors:

- › Roadway geometry
- › Major street and side street traffic volumes
- › Location(s) with a high frequency of turning vehicles
- › Access for trucks, buses and emergency vehicles
- › Existing crash patterns
- › Right-of-way impacts
- › Design requirements
- › Pedestrian and bicyclist use and safety
- › Budget

Moving forward, the City will consider innovative designs and technologies, such as those listed on page 94:

- › At new intersections and interchanges or on newly constructed corridors
- › As an alternative to existing or proposed traffic signals or when reconstructing corridors

Demonstration Projects

A potential way to employ innovative designs in Fargo is through demonstration projects. A demonstration project is typically a temporary, lower-cost road improvement designed to test the efficacy of a design or increase public awareness and acceptance. A demonstration projects program in Fargo should include the following steps:

- › Identify a set of community and neighborhood stakeholders to assist in project implementation and communications.
- › Develop a simplified process to identify, approve, implement, and evaluate demonstration projects quickly and efficiently.
- › Incorporate demonstration projects early in the project planning phase as a critical community engagement tool.



FUNDING AND MAINTENANCE

Part of Life Cycle Sustainability is planning to ensure the City has adequate resources to both fund new capital projects, as well as maintain and operate those facilities into the foreseeable future. The City of Fargo utilizes Federal Funds, City Funds, and Special Assessments to pay for infrastructure improvements. The City of Fargo does not currently use any portion of property taxes to pay for the construction/reconstruction of infrastructure.

FEDERAL FUNDS

Federal funding is generally provided to the City through two ways: direct transportation funding allocated through NDDOT, and discretionary grants. Direct funding is allocated to the City through a formula or as an allocation to fund specific projects. Discretionary grants are competitive programs the City must apply for to fund specific projects. The amount of grant funding available has risen substantially in recent years with the adoption of the 2021 Bipartisan Infrastructure Law (BIL).

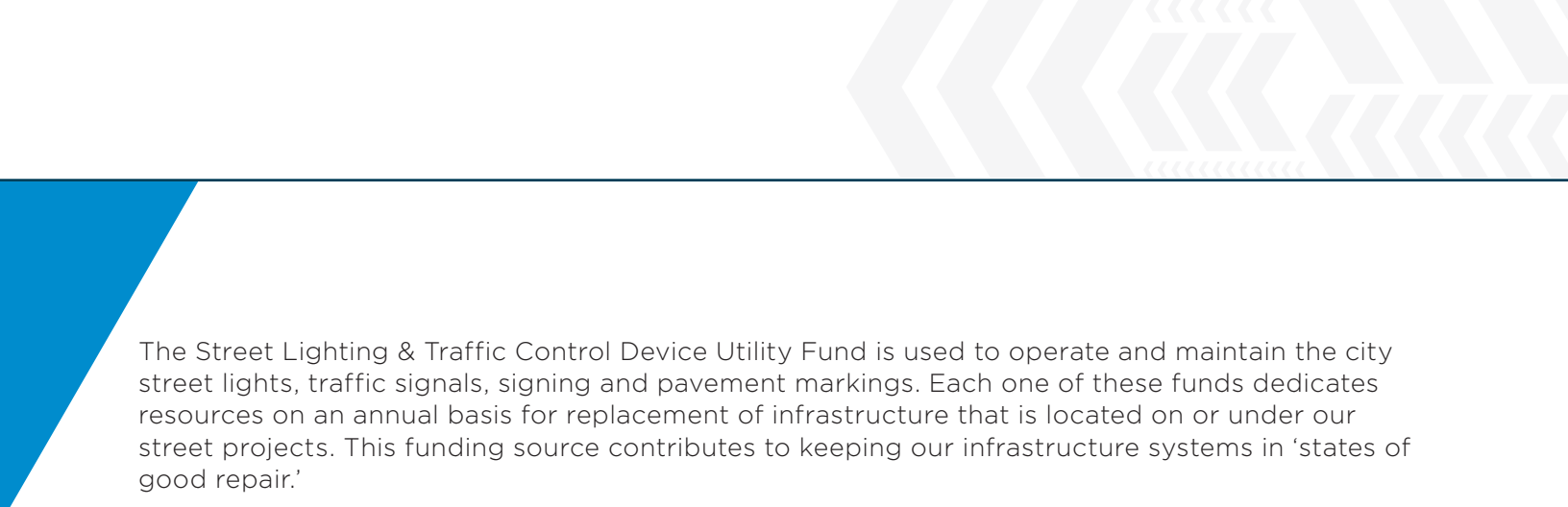
These programs are highly competitive, with projects from all over the country applying for the same pool of funding. The City of Fargo can increase its competitiveness by planning and designing projects that speak to federal transportation priorities, including selecting projects that:

- › Contribute to the system's state of good repair
- › Improve multimodal accessibility
- › Incorporate equity considerations
- › Improve design resiliency or reduce transportation emissions
- › Provide connections to jobs, healthcare, and education opportunities
- › Embrace innovative designs or technologies;
- › And are based on data-driven needs and proven technologies.

Generally, all federal funding required a local match, meaning the City must provide a portion of the funding (typically 20 to 50 percent) for all projects that are federally funded. These opportunities also typically pay for only initial capital costs, and do not consider ongoing maintenance and operation expenses. Therefore, federal funding is not "free money" but should be considered as a good source to fund necessary capital investments.

CITY FUNDS

"City Funds" is a term used broadly to include funds from a number of different sources. For transportation capital projects, this includes revenues from the City of Fargo Infrastructure Sales Tax, which are typically used to fund the local match portion of federally funded projects. The general fund, a blend of City taxes and fees and other revenue sources, are used to fund ongoing maintenance such as plowing, and street sweeping. The City has a number of Utility Funds that are used to operate, maintain, and replace critical infrastructure, including the Water Utility Fund, the Water Reclamation Utility Fund, the Forestry Utility Fund, the Storm Sewer Utility Fund, and the Street Lighting & Traffic Control Device Utility Fund.



The Street Lighting & Traffic Control Device Utility Fund is used to operate and maintain the city street lights, traffic signals, signing and pavement markings. Each one of these funds dedicates resources on an annual basis for replacement of infrastructure that is located on or under our street projects. This funding source contributes to keeping our infrastructure systems in ‘states of good repair.’

As the transportation system continues to grow the needs for ongoing maintenance and operations increase, it is important to assess the adequacy of City funding alongside those needs. The level of service that residents and business owners expect are not obtainable with current staffing and equipment, and the Streets Department needs to leverage creative funding sources in the future to meet the City’s growing needs.

It is critical to ensure that ongoing life-cycle costs are considered with the design and construction of every project. Simple changes to design may decrease these costs, but it must be discussed that it may not be sustainable to continue expanding the transportation network rather than prioritizing projects that improve the efficiency of the current system.

STATE FUNDS

Another funding source is Prairie Dog Funds. The North Dakota Legislature created a new infrastructure funding source in 2019 with proceeds from the oil and gas production in western North Dakota. It was created to assist cities, counties, and townships with their infrastructure needs. The funds are for constructing or replacing essential infrastructure. Projects that qualify can be water and wastewater treatment plants, sewer and water lines (including lift stations and pumping stations), water storage systems, stormwater infrastructure, road and bridge infrastructure, and airport infrastructure. The funding amounts can fluctuate, depending on the oil commodity price, but the City of Fargo has received up to \$25M on a bi-annual basis. These funds would be used in the same fashion as the Infrastructure Sales Tax funds.

SPECIAL ASSESSMENTS

Special Assessments are a financing method the City uses to pay for a portion of infrastructure improvements that benefit a property. There are two major types of Special Assessments. “Greenfield” Special Assessments are for all the necessary improvements for the growth of the City. These include things like new roadways, water mains, sewer mains, storm sewers, lift stations, ponds, street lights, shared use paths, and traffic signals. The other major type of Special Assessment is for the rehab and reconstruction of existing infrastructure. This would include projects like mill and overlays that extend the life of an asphalt roadway or water main replacement and street reconstruction projects that replace existing infrastructure that has already met its useful life.

Special Assessments are applied to the to the properties directly benefiting from these capital projects. Cost caps are in place to limit the cost for any individual home owner, with the remaining balance of these projects being paid by federal or City funding.

There are advantages and disadvantages to this type of funding. Notably, greenfield special assessments can encourage continued expansion of the transportation system by allowing the City to mostly defray the costs of new infrastructure projects. However, as discussed in the City funds section, these assessments do not usually adequately address the cost of ongoing maintenance and operations, creating hardship for the Public Works department.

APPENDIX

The following appendices provide supplemental information to support and expand upon the recommendations in the Fargo Transportation Plan.

► Appendix A: Corridor Lessons Learned

This appendix contains detailed profiles of five roadway corridors in Fargo. Details include how the Fargo Transportation Plan recommendations would be implemented if these roads were built today. These profiles may help inform future projects to create better safety and ease of use along these roads.



APPENDIX A: CORRIDOR LESSONS LEARNED

UNIVERSITY DRIVE

13th Avenue S to Interstate 94

This segment of University Drive is a major thoroughfare for the City of Fargo, providing a direct connection between I-94 and Downtown, along with access to the Sanford South University Medical Center. The roadway accommodates high volumes of traffic and provides direct access to corridor businesses. Driveways create a high volume of turning movements, generating a high volume of crashes. Sidewalks are provided, but driveways create a high volume of conflicts with turning traffic, making this corridor uncomfortable and unsafe for pedestrians and cyclists.

Context

- **Classification:** Mixed Use Arterial
- **Speed Limit:** 35 mph
- **Curb-to-Curb Width (Approx.):** 64' - 75'
- **Right-of-Way Width (Approx.):** 90' - 115'
- **Public Transit:** Route 14 (30-minute service)
- **AADT:** 26,000 (2021)

KEY ISSUES AND CHALLENGES

- › Dense access spacing on the west. Most parcels along the corridor have side street access and/or backage road.
- › Street trees provide a nice shade canopy for pedestrians and cyclists and should be preserved if possible
- › Parcels with parking lots that extend into the right-of-way
- › Past studies have recommended an extra southbound lane to accommodate driveway access
- › All travel modes operating at lower level of service than desired

SAFETY



75% higher crash rate than expected



48% more severe crashes than expected

Rear end and left turn crashes dominate

STREET TYPE (SEE STREET DESIGN GUIDELINES)

Mixed Use Arterial Street

BICYCLE AND PEDESTRIAN FACILITIES

- › Existing: 4.5 foot sidewalks, no bicycle facilities
- › If Built Today: 8 foot sidewalks, 10 foot shared use path on one side

Existing - Example Segment

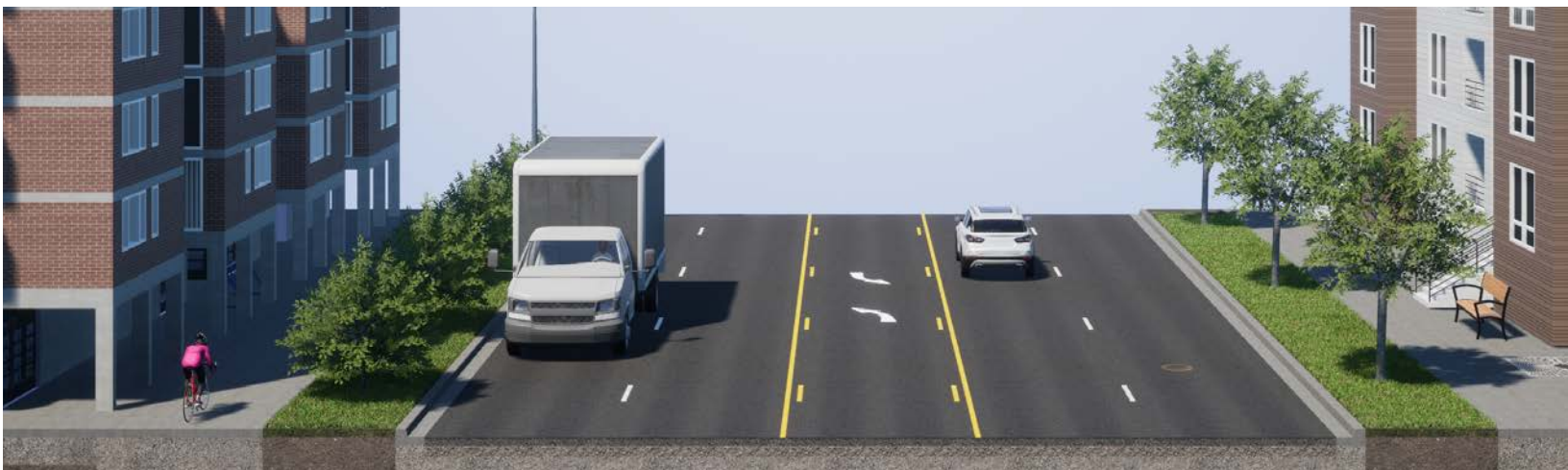


Sidewalks both sides

Frequent driveways cause many accidents

5-7 vehicle lanes, plus center turn lane

If Built Today



Lessons Learned

The design and challenges present here today can provide key lessons to apply to future corridor design:

- ▶ Access management improves safety and operations for all users
- ▶ Driveways should be consolidated, shared, or eliminated if side street access is available
- ▶ Median separation may be necessary at high traffic volumes to improve vehicle operations and provide pedestrian refuge islands
- ▶ High-quality separated multiuse facilities provide travel options for all users
- ▶ Insufficient right-of-way to accommodate high-quality multiuse facilities

UNIVERSITY DRIVE

Interstate 94 to 32nd Avenue S

This segment of University Drive is a major commercial artery south of I-94. This road accommodates a high volume of traffic and provides access to corridor businesses through service roads. In total, the roadway is 10 lanes wide—out of proportion for the volume of traffic it currently serves. Sidewalks are narrow and located in the medians between free-flowing traffic, creating an exceptionally uncomfortable pedestrian experience. No bicycle facilities are provided. However, the median separation in use likely contributes to the low volume of severe crashes, displaying the benefit of access management.

Key Facts

- **Functional Classification:** Mixed Use Arterial
- **Speed Limit:** 35 mph
- **Curb-to-Curb Width (Approx.):** 64' - 75'
- **Right-of-Way Width (Approx.):** 160'
- **Public Transit:** Route 14 (60-minute service)
- **ADT:** up to 26,000 (2021)

KEY ISSUES AND CHALLENGES

- Most businesses along corridor rely on University Drive frontage for all access and freight needs
- Marginal buffer between pedestrians realm and roadway, no shade, limited safe crossings for business access
- Wide 10-lane crossings from business to business
- Large amount of conflict points, queuing issues, and friction
- Vehicular level of service is adequate, but pedestrian and bicycle improvements needed
- Intersection of University Drive at 24th/25th Ave S is dangerous and difficult to use

SAFETY



17% higher crash rate than expected



38% fewer severe crashes than expected

Rear end and left turn crashes dominate

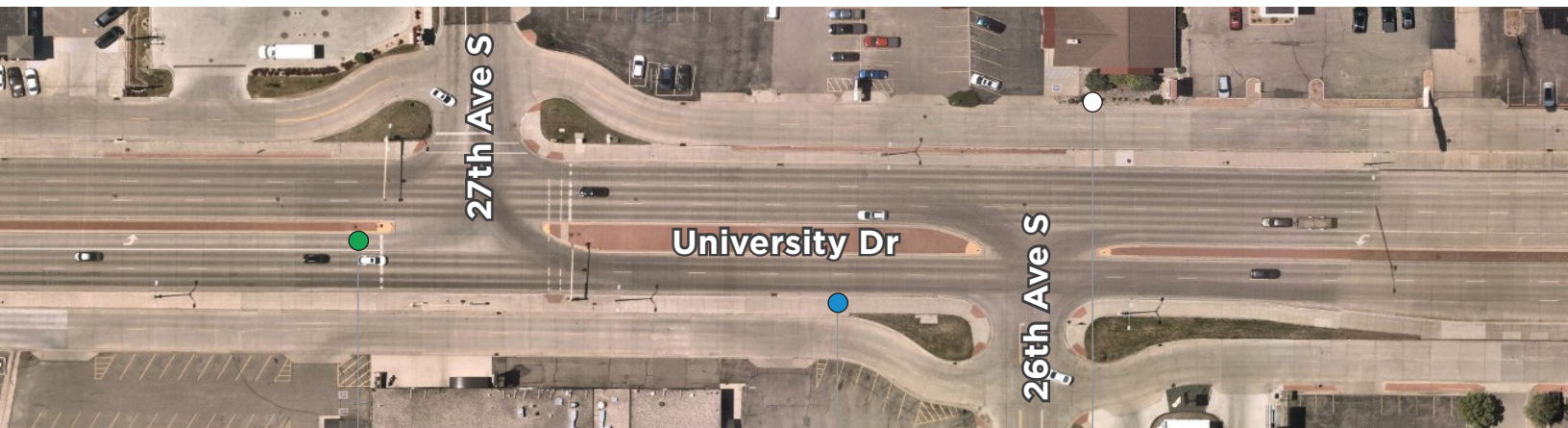
STREET TYPE (SEE STREET DESIGN GUIDELINES)

Mixed Use Arterial Street

BICYCLE AND PEDESTRIAN FACILITIES

- Existing: 4.5 foot sidewalks, no bicycle facilities
- If Built Today: 4.5-8 foot sidewalks, 10 foot shared use path on one side

Existing - Example Segment

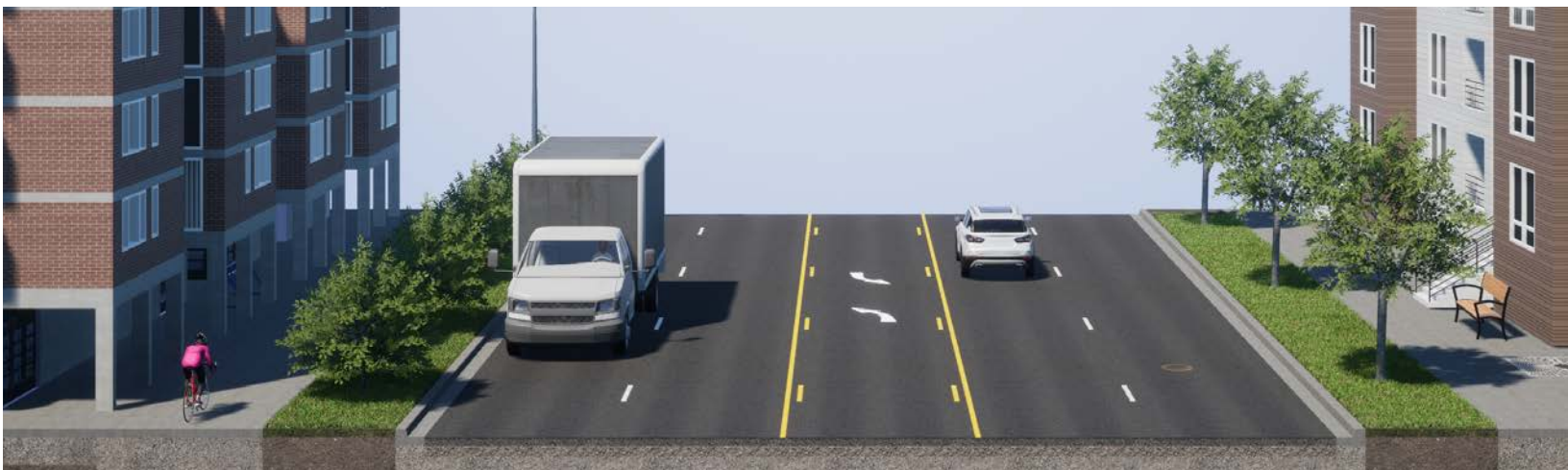


Total of 10-11 vehicle lanes

Sidewalks surrounded by high-speed traffic

No pedestrian access to corridor businesses

If Built Today



Lessons Learned

The design and challenges present here today can provide key lessons to apply to future corridor design, and are reflected in the Street Design Guidelines for a Mixed Use Arterial Street:

- ▶ Access management improves safety and operations for all users
- ▶ Narrower roadway provides room for street trees and wider medians to provide a better pedestrian experience
- ▶ Driveways should be consolidated, shared, or eliminated if side street access is available.
- ▶ Median separation may be necessary at high traffic volumes to improve vehicle operations and provide pedestrian refuge islands
- ▶ High-quality separated multiuse facilities provide travel options for all users

13TH AVENUE S

21st Street S to University Drive

This segment of 13th Avenue S serves mostly residential neighborhoods and Carl Ben Eielson Middle School, but is also the main east-west thoroughfare between Main Ave/US 10 and I-94. Wide vehicle lanes and lack of street parking encourage fast driving through the area, which does not fit with the neighborhood context. Sidewalks are narrow (4.5 feet) but are shaded and buffered by a wide strip of grass and mature trees. No bicycle facilities are provided. Frequent driveways and access to the school create conflicts that result in a higher than expected crash rate, but the center turn lane aids visibility and may influence the lower than expected number of severe crashes.

Key Facts

- **Classification:** Mixed Use/Commercial Collector
- **Speed Limit:** 25 mph
- **Curb-to-Curb Width (Approx.):** 40' - 65'
- **Right-of-Way Width (Approx.):** 75' - 115'
- **Public Transit:** Route 14 (60-minute service), Route 15 (20-minute service)
- **AADT:** up to 13,000 (2021)

KEY ISSUES AND CHALLENGES

- › Dense access with streets, alleys, residential driveways, and school bus loop for Carl Ben Eielson Middle School
- › Functions as an east-west arterial which clashes with neighborhood setting and proximity to schools
- › No bicycling facilities

SAFETY



11% higher crash rate than expected



16% fewer severe crashes than expected

Rear end and left turn crashes dominate

STREET TYPE (SEE STREET DESIGN GUIDELINES)

Mixed Use/Commercial Collector

BICYCLE AND PEDESTRIAN FACILITIES

- › Existing: 4 foot sidewalks, no bicycle facilities
- › If Built Today: 4.5-8 foot sidewalks, 10 foot shared use path on one side

Existing - Example Segment



Two 14-foot-wide moving vehicle lanes and center turn lane

Frequent driveways and access points along arterial

Narrow 4.5-foot sidewalks buffered from street

If Built Today



Lessons Learned

The design and challenges present here today can provide key lessons to apply to future corridor design, and are reflected in the Street Design Guidelines for a Mixed Use/Commercial Collector Street:

- ▶ Narrower roadway provides room for street trees and wider medians to provide a better pedestrian experience
- ▶ Driveways should be consolidated, shared, or eliminated if side street access is available
- ▶ Narrowing roadways can help maintain slow speeds in a neighborhood context. The extra roadway space can be used for bicycle facilities or street parking
- ▶ High-quality separated multiuse facilities provide travel options for all users

45TH STREET S

13th Avenue S to Interstate 94

45th Street mostly serves suburban-style commercial land uses such as hotels, fast food restaurants, and mall-style retailers. The roadway and surrounding context is extremely auto-oriented, with almost no walkable destinations. Narrow (4-foot) sidewalks are located just a few feet from moving traffic. Frequent access points to businesses create unpredictable and high-speed turning movements. Crashes occur frequently along this corridor, likely due to frequent vehicular turning movements. However, serious crashes occur less often than expected.

Key Facts

- **Classification:** Commercial Arterial
- **Speed Limit:** 40 mph
- **Curb-to-Curb Width (Approx.):** 94' - 110'
- **Right-of-Way Width (Approx.):** 125' - 130'
- **Public Transit:** Route 24 (60-minute service)
- **AADT:** up to 33,000 (2021)

KEY ISSUES AND CHALLENGES

- Most parcels have ample internal circulation options that reroute to side streets
- Minimal buffers between pedestrians and roadway. Long crossing distances through high turn volume intersections
- Observed crash rate is twice the normal rate for similar corridors
- Consistent delays at the north and south end of the I-94 Interchange

SAFETY



48% higher crash rate than expected



56% fewer severe crashes than expected

Rear end, left turn, and sideswipe crashes dominate

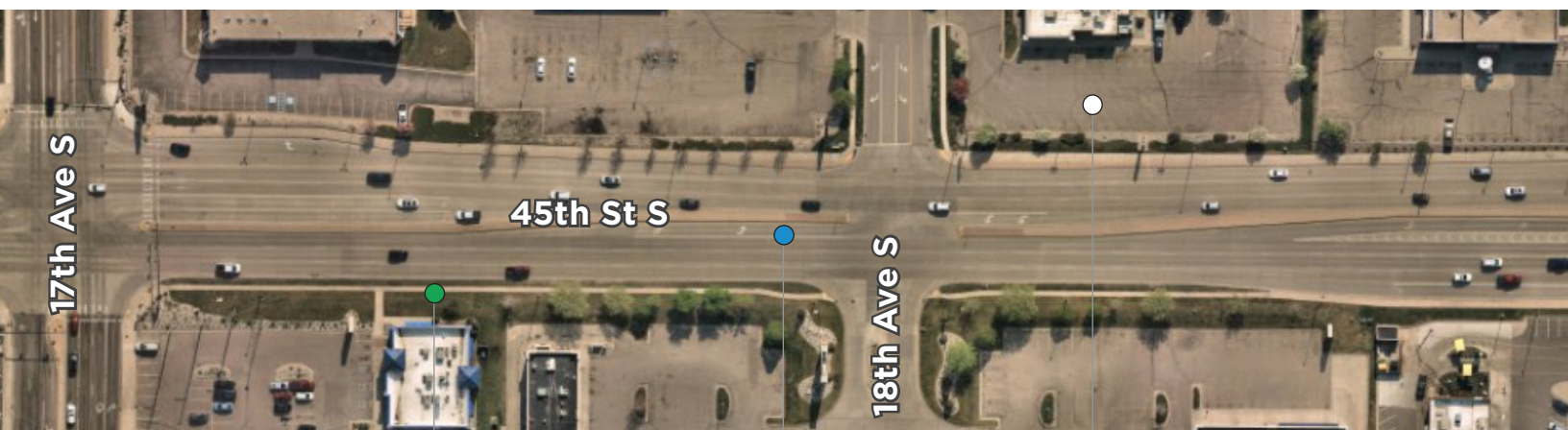
STREET TYPE (SEE STREET DESIGN GUIDELINES)

Commercial Arterial

BICYCLE AND PEDESTRIAN FACILITIES

- Existing: 4 foot sidewalks, no bicycle facilities
- If Built Today: 4.5-8 foot sidewalks, 10 foot shared use path on one side

Existing - Example Segment



Sidewalks as close as 4 feet from high-speed traffic

Total of 7-9 vehicle lanes

No pedestrian access to corridor businesses

If Built Today



Lessons Learned

The design and challenges present here today can provide key lessons to apply to future corridor design, and are reflected in the Street Design Guidelines for a Commercial Arterial Street:

- Access management improves safety and operations for all users
- Narrower roadway provides room for street trees and wider medians to provide a better pedestrian experience
- Driveways should be consolidated, shared, or eliminated if side street access is available
- Median separation may be necessary at high traffic volumes to improve vehicle operations and provide pedestrian refuge islands
- Insufficient right-of-way to accommodate high-quality multiuse facilities

42ND STREET S

9th Avenue S to 17th Avenue S

This segment of 42nd Street serves mostly auto-oriented commercial land uses, such as the West Acres Mall and other big-box retail stores (i.e., Target, Hornbacher's). The corridor has above-average crash rates. Frequent turning movements create conflicts between vehicles. Pedestrian facilities exist, but are often separated from moving traffic by only 4 feet of buffer. Deteriorating pavement poses a challenge to safety and the road will need to be resurfaced soon.

Key Facts

- **Classification:** Mixed Use Arterial
- **Speed Limit:** 40 mph
- **Curb-to-Curb Width (Approx.):** 94' - 110'
- **Right-of-Way Width (Approx.):** 125' - 130'
- **Public Transit:** Route 24 (60-minute service)
- **AADT:** up to 9,000 (2021)

KEY ISSUES AND CHALLENGES

- › Deteriorating pavement conditions
- › Most parcels have side street access and/or backage roads
- › Adequate pedestrian facilities, but lack of destinations due to large and consistent parking lots
- › High traffic volumes and signal density at 13th Avenue, Target, and Hornbachers entrances results in poor operations and frequent crashes

SAFETY



26% higher crash rate than expected



41% more severe crashes than expected

Rear end, left turn, and sideswipe crashes dominate

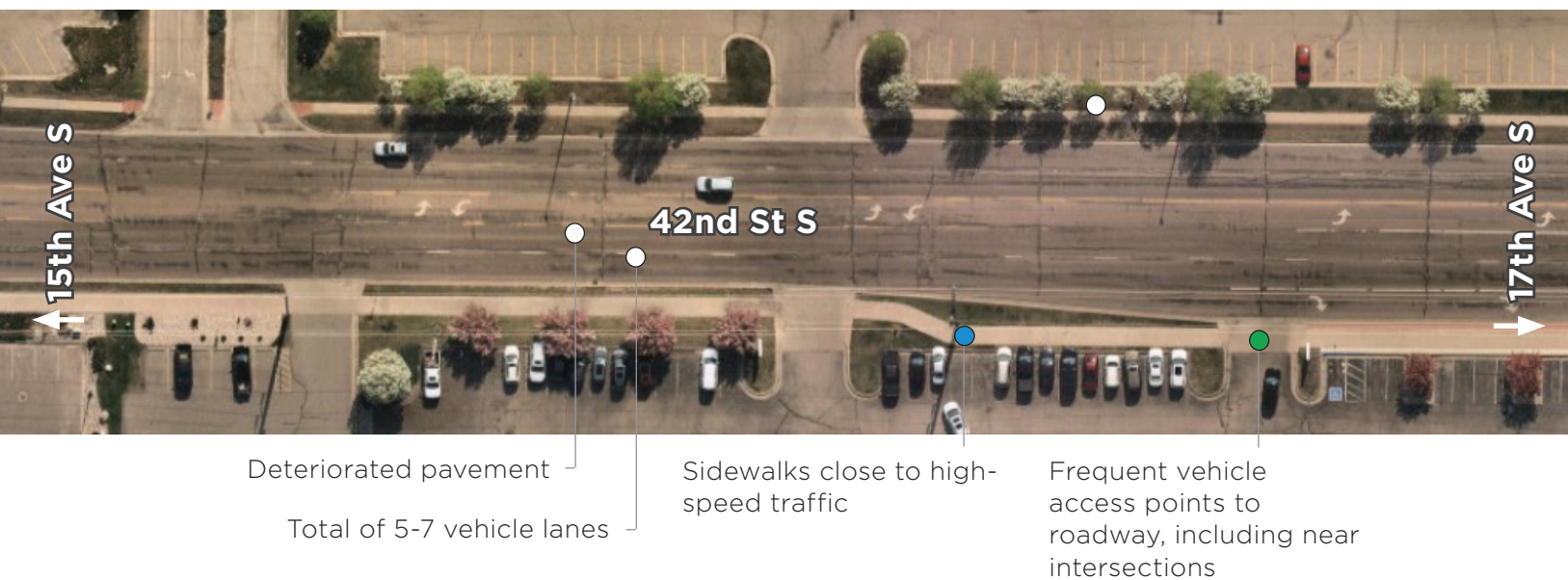
STREET TYPE (SEE STREET DESIGN GUIDELINES)

Mixed Use Arterial

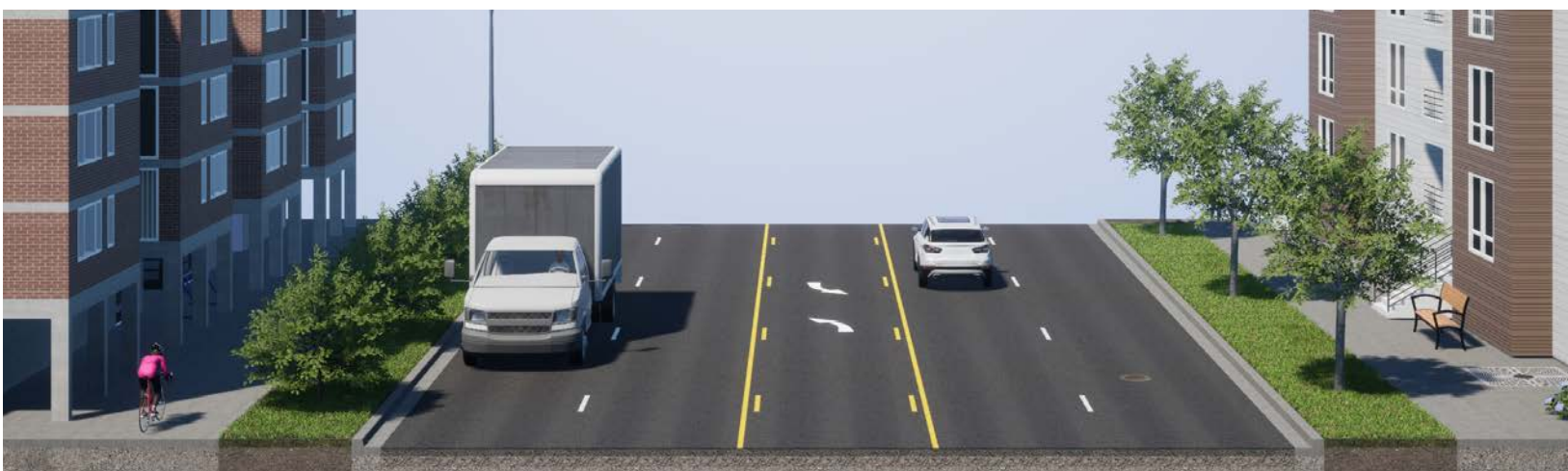
BICYCLE AND PEDESTRIAN FACILITIES

- › Existing: 4 foot sidewalks, no bicycle facilities
- › If Built Today: 4.5-8 foot sidewalks, 10 foot shared use path on one side

Existing - Example Segment



If Built Today



Lessons Learned

The design and challenges present here today can provide key lessons to apply to future corridor design, and are reflected in the Street Design Guidelines for a Mixed Use Arterial Street:

- Access management improves safety and operations for all users
- Narrower roadway provides room for street trees and wider medians to provide a better pedestrian experience
- Driveways should be consolidated, shared, or eliminated if side street access is available
- Median separation may be necessary at high traffic volumes to improve vehicle operations and provide pedestrian refuge islands
- High-quality separated multiuse facilities provide travel options for all users

